

Technology Review

Edited at the Massachusetts Institute of Technology



The key to the thermal history of a meteorite Page 22

The Engineer in
the Public Arena

Page 11

March, 1965

technology review

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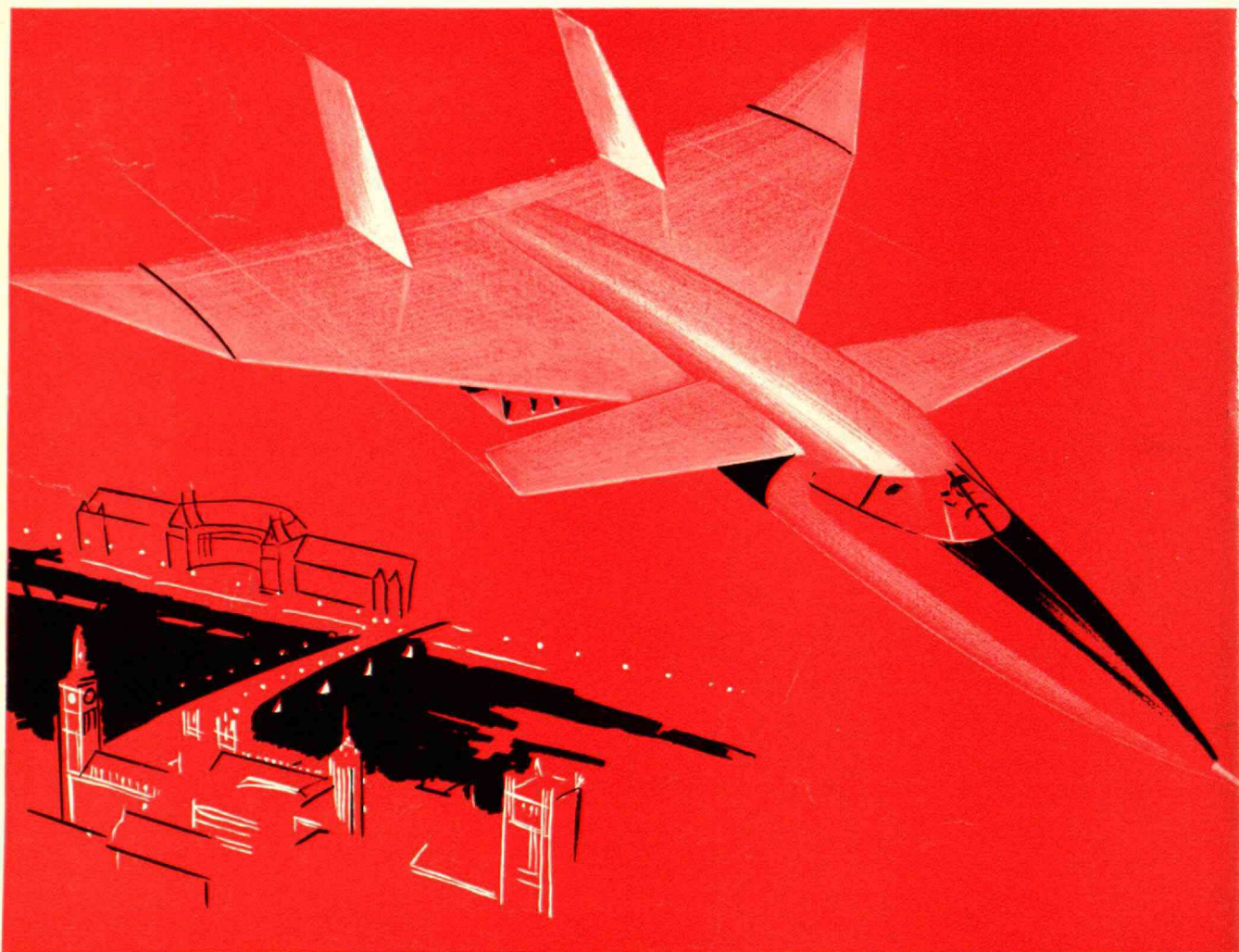


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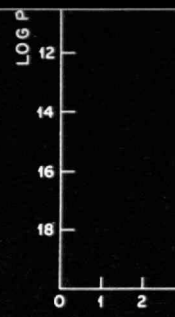
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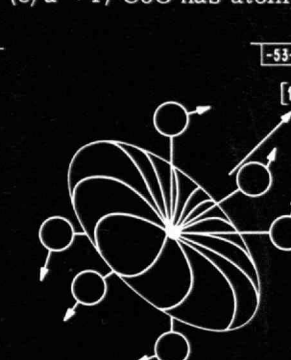
MARTIN MARTIN
MARIETTA

FROM THE GENERAL SPIN WAVE THEORY, the magnetization in contrast to previous conductivity, relations are all properly to algebraic equations of the wave number. Some of the plane waves are in the direction of the special case where the solution for the cavity obtained on solutions for the lattice using an IBM 709 computer. When relaxation is neglected, our results are given by Kittel in the static limit. It is found that the unit vectors exist only under the one of the two normal modes.

"Excitation and Resonance" J. Appl. Phys. 32, 1020 (1961). Using the general spin wave theory of the line shape of the line shape of the metallic films is measured at the set of excitation conditions. The spacings between the peaks are determined by the constant A, the relations are strong isotropy energy density.



development of a multidimensional coupling results in a spidecoded, individual along the [001] axis, making the term decision feedback transmission systems. The length is assigned to the intended message directed along the [111] partially occupied. As $(\alpha < 60^\circ)$ distortion for $(c/a < 1)$ CoO has atomic



because of higher-order feedback, even large and the symmetry is maintained with continuous. The latter point is information-feeding random through the lattice which assumes the channel. Its error transmission rate, T_N , they probably do not dichotomy" exponential length dichotomy" exponential length at cap 0.91),⁷⁸ and $\text{Cu}[\text{Cr}_2]\text{O}_4$ of the system reveal in FeO and CoO, noncollinear length required to a Nevertheless, this suggests¹⁰⁻¹⁵ at channel code required by the "optimal" block code, when the

The term decision feedback transmission systems. The length is assigned to the intended message directed along the [111] partially occupied. As $(\alpha < 60^\circ)$ distortion for $(c/a < 1)$ CoO has atomic

Bounds on the error asymptotic relation of error and the average achieve it are derived transmission. It is a sequential-sphere (decision-feedback) packed block code, capacity, than the fixed-constraint-limited that it is at the leizable decision-feedback, however, that asymptotic is possible with an information system.

feedback, even large and the symmetry is maintained with continuous. The latter point is information-feeding random through the lattice which assumes the channel. Its error transmission rate, T_N , they probably do not dichotomy" exponential length dichotomy" exponential length at cap 0.91),⁷⁸ and $\text{Cu}[\text{Cr}_2]\text{O}_4$ of the system reveal in FeO and CoO, noncollinear length required to a Nevertheless, this suggests¹⁰⁻¹⁵ at channel code required by the "optimal" block code, when the

rain n-or xim Fe agor u axis show FeO, cmo

$$r(t_1 - t_2) = \frac{1}{2N_0} \left\{ \dots \right\}$$

$$[\psi_2] = \text{Re } \beta_2^* \int_0^T$$

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MARCH, 1965

THE COVER picture shows the Widmanstätten pattern in the Carlton meteorite (20X). See "A Cosmic Mystery Microanalyzed," in The Trend of Affairs, on page 22.

By Alumni & For Alumni

Three articles on the pleasures found in engineering and science

The Engineer in the Public Arena, by JAMES R. KILLIAN, JR., '26 11
His position places him in an enviable position from which to blend the talents needed to enhance our environment's benignity.

The Origins of Our Universe, by HARRY A. KULJIAN, '19 17
In simple language, a noted engineer reviews men's speculations in the past and now about great unanswered questions.

1,150 Bridges to America's Past, by RAY WILSON, '12 18
Looking for and studying the covered spans left by the pioneers is a fascinating and restful hobby for an M.I.T. man.

News of the M.I.T. Community



Prof. Matthews and the Red Thunder Cloud family co-operate in the Research Laboratory of Electronics (see page 24).

The Nominees of the Alumni Association 16
Photographs and biographical data on the men whose names are on the ballot this year.

Structural Models Feed Computers 20
Camera glimpses of civil engineering work to be dealt with in a special summer course.

The Trend of Affairs 22
A new program to aid the blind gets under way, fellow economists honor M.I.T. economists, and other news of a bustling international fellowship of students.

The Housing Problem at M.I.T. 27
Dean of Residence Frederick G. Fassett, Jr., reviews developments and the prospects for the future.

The Theater 33
Stan Klein, '58, reports on a new movie, *World Without Sun*.

Individuals Noteworthy 4 **New Books** 34

Individuals Noteworthy



Planning Professor

TO FACILITATE "appropriate changes in the undergraduate curricula in accordance with the policies set by the Committee on Educational Poli-



George E. Valley, Jr., '35

cy," President Julius A. Stratton, '23, has appointed George E. Valley, Jr., '35, as M.I.T. Undergraduate Planning Professor for two years. The position is a new one, recommended by vote of the Faculty last fall, and in it Professor Valley will be associated with the Office of the Provost.

Professor Valley has devoted much attention in the last few years to revision and modernization of the junior laboratory in physics, and as a member of the Committee on Educational Policy has helped to introduce a number of experiments of a tutorial character.

He received his doctorate in physics at the University of Rochester, was a National Research Council Fellow at Harvard, and on the staff of the Radiation Laboratory at M.I.T. before being appointed to the Institute's Faculty. In the 1950's he conceived and directed the development of the SAGE Air Defense System, and served both as Assistant Director and Associate Director of Lincoln Laboratory. He also has served as Chief Scientist of the Air Force.

Pfister Professorship

A VISITING Professorship in Chemistry honoring Karl Pfister, '40, Executive Director of developmental research in the Merck Sharp and Dohme Research Laboratories, has been established at M.I.T. by a \$25,000 grant from Merck and Company, Inc. It will bring a distinguished scientist chosen by M.I.T. to the Institute annually.

Dr. Pfister has been a leader in development of compounds for the treatment of high blood pressure and in research on sulfa drugs, vitamins, steroids, and alkaloids. The Pfister Professorship is the sixth such award the Merck board of directors has voted in honor of the company's research scientists. Dr. Pfister joined the company in 1942.

Honors to Alumni

RECIPIENTS of recent awards and similar distinctions have included:

Herbert K. Weiss, '37, a Commendation for Meritorious Civilian Service by the Department of the Air Force . . . Professor *Eric Reissner*, '38, an honorary Doctor of Engineering degree by Hannover Institute of Technology . . . Major General *Gordon T. Gould, Jr.*, '50, the Legion of Merit by the U.S. Air Force . . . *Robert T. Wallace*, '53, named as "Chemical Engineer of the Year" by the Toledo section, American Institute of Chemical Engineers.

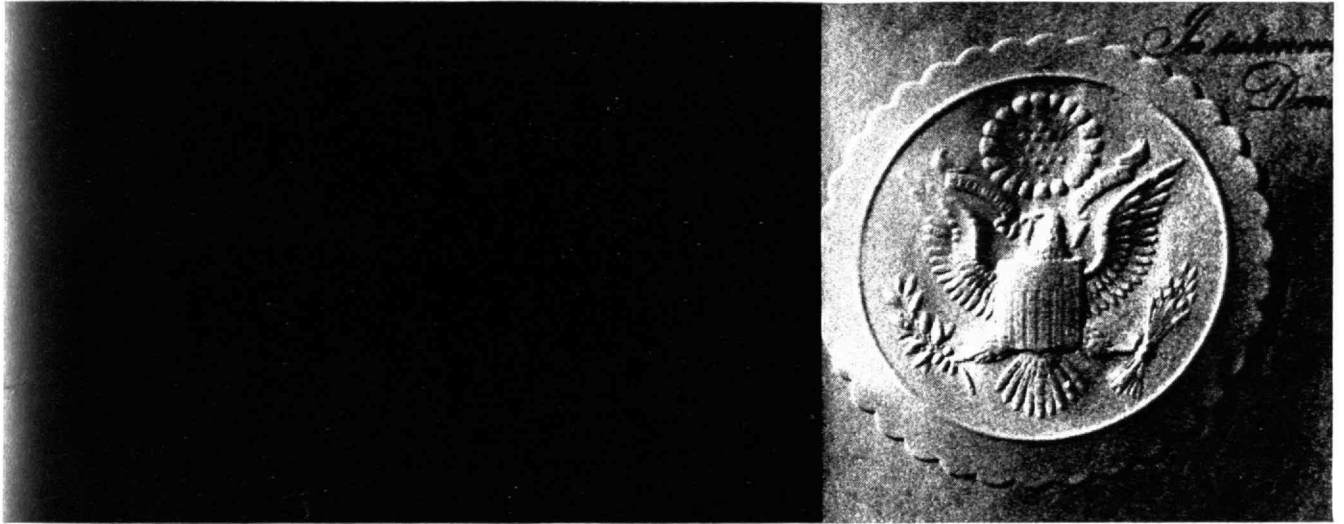
Student-Alumni Relations

TO SERVE as an M.I.T. Alumni Association Committee on Student-Alumni Relations, headed by Harry E. Essley, '36, the Association's Executive Committee has named *J. W. Chamberlain*, '28, *J. T. Toohy*, '49, *J. S. Saloma, 3d*, '56, *R. L. Sampson*, '59, *Mrs. S. E. Widnall*, '60, *J. Harrington, 3d*, '61, and *J. B. Jamieson, Jr.*, '52.



INDUSTRIAL LEADERS photographed while reporting to President Johnson this winter after a trip to the Soviet Union included *J. Herbert Hollomon*, '40, Assistant Secretary of Commerce for Science and Technology (left), and *Robert L. Hershey*, '23, Vice-president of E. I. du Pont de Nemours & Co.

Science and IDA



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Individuals Noteworthy

(Continued from page 4)

Philip Franklin: 1898-1965

A TEACHER of mathematics at M.I.T. for 40 years, Professor Philip Franklin, died unexpectedly last January 27 while recovering from surgery. He had retired last June but continued to teach part time.

Professor Franklin was born in New York, and attended City College of New York which honored him later with its Townsend Harris medal. He received his doctorate at Princeton, and taught there and at Harvard before coming to the Institute. He returned to Princeton later, while on leave, as a member of the Institute for Advanced Study there.

Professor Franklin wrote seven books, three of which were used as textbooks at M.I.T., and scores of papers on geometry, topology and analysis. He was managing editor of the M.I.T. *Journal of Mathematics and Physics* from 1929 to 1945, and widely known for a monograph on mathematical aspects of the four-color problem that was published in

1941 as part of the Galois Lectures. He often wrote for this magazine.

He made friends easily and interested himself in virtually all Institute and student affairs. He was especially concerned with improvement of mathematics teaching and the grading system used to evaluate student performance. As Secretary of the Faculty for five years before he retired, he served as chairman of the Committee on Academic Performance.

His memberships included the American Association for the Advancement of Science, the American Academy of Arts and Sciences, the American Mathematical Society, the Mathematical Association of America, Phi Beta Kappa, and Sigma Xi.

He is survived by his wife (a sister of the late Professor Norbert Wiener), his son, two daughters, and five grandchildren.

Faculty Notes

PROFESSOR Albert G. H. Dietz, '32, is now chairman of the Building Research Advisory Board of the National Academy of Science. . . .

Professor *Manson Benedict*, '32, is on a panel reviewing AEC policies and procedures for licensing nuclear facilities.

(Concluded on page 8)

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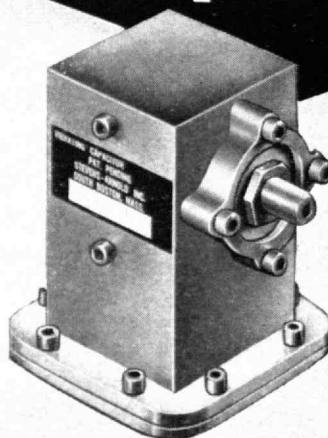
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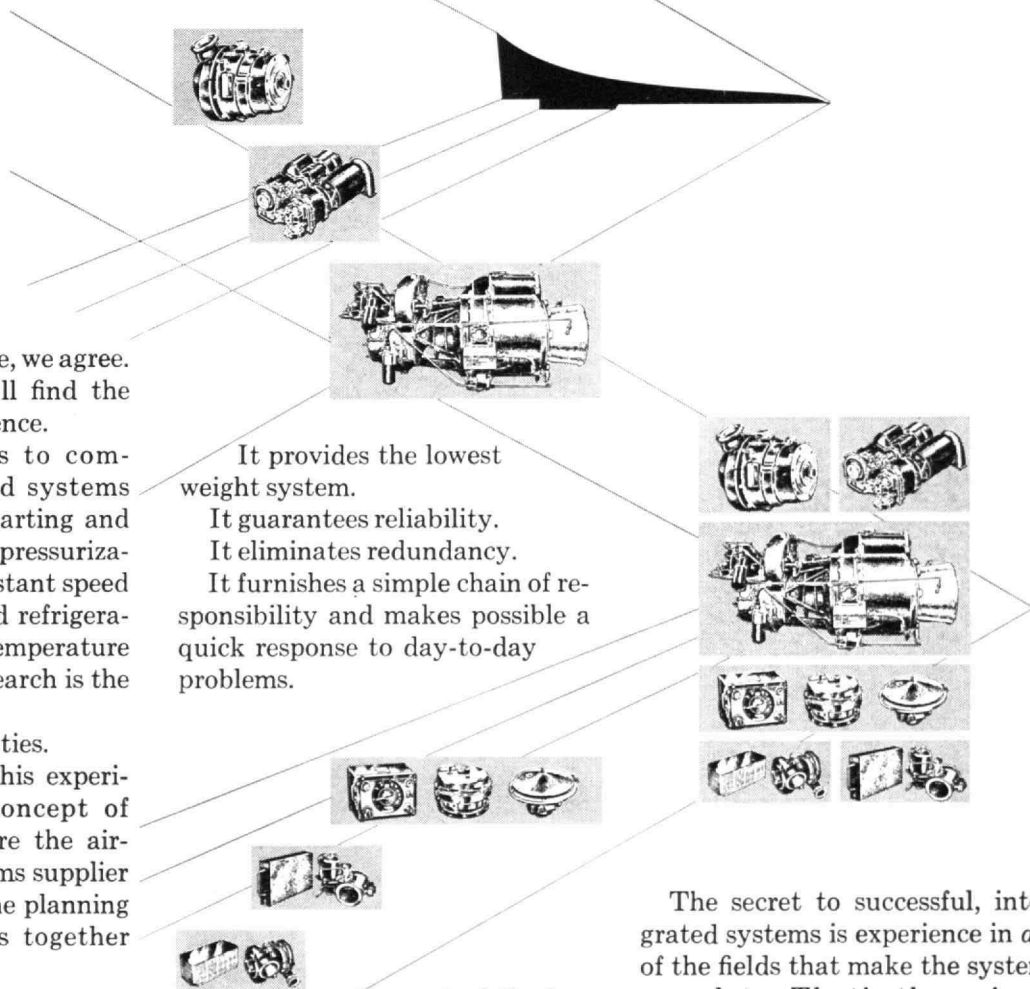
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Individuals Noteworthy

(Concluded from page 6)

New Posts

NAMED in the news of promotions, elections, and appointments were:

William J. Sherry, '21, as Chairman, Old Timers Committee, 1966 International Petroleum Exposition, Tulsa . . . *Marion W. Boyer*, '25, as a Trustee, Alfred P. Sloan Foundation . . . *Walter K. Grimwood*, '28, and *Keith E. Whitmore*, '45, as Senior Research Associates, Kodak Research Laboratories;

Graydon Smith, '28, as Corporate Director of Engineering, The Foxboro Company . . . *Frank C. Fahnestock*, '30, as Consultant, Engineering Department, Socony Mobil Oil Company . . . *John K. Jamieson*, '31, as a Director, Executive Vice-president, and Member, Executive Committee, Standard Oil Company of New Jersey;

John F. Crowther, '32, as General Manager, Northwest Chemical Company . . . *H. Neal Karr*, '34, as President, Singer Company of Canada, Ltd. . . . Major General

Rush B. Lincoln, Jr., '35, as General Manager, Massachusetts Bay Transportation Authority;

W. H. Krome George, '40, as Vice-president—Economic Analysis and Planning, Aluminum Company of America . . . *Edwin H. Seim*, '40, as Vice-president—Construction Group, Westinghouse Electric Corporation . . . *William K. Hooper*, '41, as a Director, the Aluminum Association;

Edward C. Cavey, Jr., '42, as International Marketing Director, Hardware Products, Yale & Towne, Inc. . . . *Robert A. Plachta*, '44, as Treasurer, Philip Hankins & Co., Inc. . . . *R. Hewitt Townsend*, '44, as President, Lockwood Cheney Corporation;

S. Bruce Smart, Jr., '47, as Vice-president—Marketing and Corporate Planning, Continental Can Company . . . *Van T. Boughton, Jr.*, '49, as Manufacturing Manager, Organic Chemicals Division, Dewey and Almy Chemical Division, W. R. Grace and Company . . . *Frank J. Finnegan*, '49, as Vice-president—Engineering, Frederick Electronics Corporation;

Norman Stolz, '49, as General Partner, Brewer & Lord, Boston . . . *Christian C. Bolta*, '51, as Assistant Head, Limited Warfare Group, Propulsion and Chemical Systems, Atlantic Research Corporation . . . *John P. Costas*, '51, as a Fellow, the Institute of Electrical and Electronics Engineers . . . *Christian L. Rust*, '51, as Research Director, Bethesda, Md., Research and Analysis Division, Booz, Allen Applied Research, Inc.;

E. Fletcher Hosmer, '53, as Assistant Vice-president, The First Boston Corporation, New York City . . . *Peter Affeld*, '55, as Assistant to the President, The Richardson Foundation, Inc. . . . *George B. Raymond*, '55, as Executive Vice-president, Raymond Engineering Laboratory, Inc.;

Forrest W. Getzen, '56, as a Member, USAID Engineering Team, Kabul, Afghanistan . . . *Warren A. Welsh*, '60, as Director, Systems Development-Resource Control, Western Electric Company.

Social Science Professors

NEWLY appointed assistant professors in the M.I.T. Department of Economics and Social Science are:

Morton Gorden, '63, who studied at Wesleyan, the University of Paris, and Harvard before coming to the Institute for his doctorate.

Willard R. Johnson, who has degrees from the University of California at Los Angeles, Johns Hopkins University, and Harvard.

Paul Kay, who received his doctorate at Harvard and was a post-doctoral fellow at Stanford.

Stephen A. Marglin, a Harvard man who has studied at Cambridge University.

Karl Shell, a Princeton graduate who was an instructor during 1962-1963 at Stanford University.

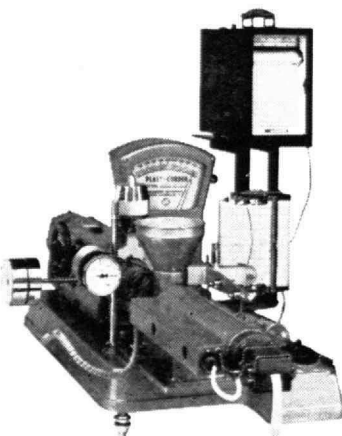
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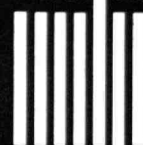
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The Engineer in the Public Arena

From his strategic position he can blend talents required to solve pressing problems of our times

By James R. Killian, Jr., '26

Chairman of the M.I.T. Corporation

IN A RECENT essay on science and public policy, Christopher Wright has spoken of the "science affairs community." We today witness the growth, slow to be sure, of an "engineering affairs community," the evolution of an engineering subprofession skilled in advising government in local, national, and international contexts.

Despite the growth of this engineering affairs community and its contributions in the public arena, outworn stereotypes of the engineer persist. They need to be cast aside. The quarterly publication of the Engineers' Joint Council recently pointed to one of these stereotypes in C. P. Snow's novel, *The New Men*. In noting the absence of engineers from a meeting of scientists called to express their grave concern about the awesome danger to mankind of nuclear weapons, Snow says, in the words of a character in the novel: "It struck me that all the top scientists . . . were present but none of the engineers. As an outsider, it had taken me years to understand this rift in technical society . . . The engineers . . . who used existing knowledge to make something go, were in nine cases out of ten, conservatives in politics, acceptant of any regime in which they found themselves, interested in making the machine work, indifferent to long-term social guesses.

"Whereas the physicists, whose whole intellectual life was spent in seeking new truths, found it uncongenial to stop seeking when they had a look at society. They were rebellious, questioning, protestant, curious for the future and unable to resist shaping it . . ."

This incident expresses a cliché that dies hard. Even had it ever been true, it is wide of the mark today. It is an out-of-date stereotype to type engineers as not interested in seeking new truth. Engineers are working

side by side with scientists in many research programs, and more and more the education of engineers provides them with the fundamental training and the motivation to enable them to become highly successful innovators. And this kind of intensive creativity encourages independence and nonconformity. Gerard Piel has said it just right: "Engineering as the closest coupling of science to society is too widely celebrated for its utility and not enough for its creativity."

So we need to dump these stereotypes, frequently held by engineers themselves, if the engineer is to be of maximum usefulness in the public domain. Our societies need independent-minded, questioning, concerned engineers as well as scientists with these traits.

New educational programs that are under way seek to give new dimensions to engineers so that they can perform effectively in the public arena. Not only have there been changes in the undergraduate program giving greater emphasis to the fundamentals of science and the humanities, and a steadily lengthening of engineering education by graduate and postdoctoral study; increasingly, engineers elect to study management and public administration either through electives in undergraduate school or full time at the graduate level. In a number of American universities, new programs have recently been started dealing with science and technology and public policy. For the past several years I have had the stimulating experience of occasionally giving a graduate seminar to engineers, scientists, and political scientists on science and technology and public policy. I have become convinced of the importance of a continuing study of the impact of technology on government and on foreign affairs and of a cross-fertilization between engineering and political science.

Today, students, both undergraduate and graduate, occasionally come to me to inquire how they can enter the service of the government or contribute to the public service. In general, my inclination is to tell them

THIS ARTICLE was drawn from the Roy V. Wright lecture delivered at the American Society of Mechanical Engineers' winter meeting in New York last December 2.



Engineering on a continental scale is represented by the proposal for a North American Water and Power Alliance. The \$100 billion system would collect surplus water in the high-precipitation regions in the northwest part of

the continent and distribute it to seven Canadian provinces, 33 states in the U.S.A., and three states in Mexico. The plan, developed by the Ralph M. Parsons Company, an engineering firm, would also provide power, waterways.

that they must first establish themselves firmly in their professions, achieving a record in the practice of science and engineering. They are then in a much stronger position to make their talents effectively available in government. At the same time, however, it must be recognized that with the preparation now available in an increasing number of universities in public administration and in political science, increasing numbers of young people find it possible to move immediately into the service of the government.

There is an impressive interest on the part of students today in public service, especially students in science and engineering. It is another manifestation of the motives and altruism which marks service in the Peace Corps and other groups serving the public welfare.

LET ME note five areas of public service where the specialized skills of the engineer are increasingly in demand and where the profession is qualified to make an even larger contribution. I leave out such major but obvious areas as defense and space technology which, taken together, constitute by far the largest government use of engineering talent.

First, there is the difficult area of arms limitation. The engineers of our generation face a magnificent challenge to join in interdisciplinary concert with military and political experts in supporting government leaders in finding sound, safe approaches to arms limitation. Jerome B. Wiesner, for example, working with other engineers and with scientists, has assisted policy makers in shaping those national policies that led to our treaty with the Soviet Union for a limited nuclear test ban. All efforts to achieve arms limitation require a very high level of technical study and judgment, and engineers have special qualifications to be helpful.

Second, with increasing frequency our society must make knotty, vexing decisions on the desirability of costly technological ventures such as the supersonic transport plane and the accompanying system of airports and air-traffic control. The engineering profession must provide men of statesmanlike judgment to help make these decisions, which involve finance, technology, industry, government, and social priorities, not to mention sonic booms.

Third, our society faces the job of deploying a new technology that is regional, continental, or even global in scale and must look to engineers for guidance.

Transportation is an indicative example. It becomes increasingly clear that we cannot solve our transportation problems by a piecemeal approach. Highways, rapid transit, railroads, and air transport must be treated as a system requiring a new order of technological, financial, political, and managerial ingenuity. We now have on the agenda bold proposals for an integrated transportation system for the Northeast Corridor stretching from Boston to Washington. This concept, made both possible and necessary by technological advance, may involve the development of really high-

speed rail transport with other collateral transport systems deployed in association with it, and all breaking across municipal, county, and state lines and requiring new political arrangements.

We hear spectacularly bold engineering proposals to meet current national and international needs. For example, there is the international North American Water and Power Alliance (NAWAPA) proposal to store water at high elevations, mainly in Canada, after collection in Alaska and Canada, and to distribute it throughout the southern provinces of Canada, and in the United States and Northern Mexico. Similarly there is the proposed Hamilton Falls hydroelectric project to generate economically useful power not only for Canada but for parts of New England and for New York City. These great concepts represent the regional and continental scale of that modern engineering which we must have to serve the nation, and point up the importance of leaders who are masters of the technology required, but who also understand the confluence of technology with government, finance, management, regional planning, and sociology.

The spectacular growth of computers and data processing, a technological revolution that is really just beginning, leads to conjectures about utility systems devoted to data processing.

We must have engineers of an intellectual scale and scope to match these great enterprises, to evaluate them, to master their social and political complexities, and to discipline them to serve man and not to dominate him.

Fourth, the impact of science and technology on foreign affairs has created a need for engineers with many different kinds of orientation to serve our foreign policy. The State Department now has scientific attachés, some of whom are engineers, in its major embassies, and of course our technical aid programs have enlisted many engineers for foreign service. Even so, there is still need for more engineers in the foreign service—and a greater recognition on the part of government that it needs them.

In this era of awakening nations the engineer has an unprecedented opportunity to work sensitively in strange cultures to give them in their own terms the technology they need and can use to become self-sustaining. In all of these ways he performs a unique service for the human community.

Since our principles and policies impel us to aid the new and less-developed nations, we must face the fact that our knowledge of how to do it is frequently as underdeveloped as the nations we would help. Our aid programs should be supported and guided by a research program as intensively and professionally pursued as the research and development programs underlying our defense. An idealistic impulse to aid is not enough; we must bring together teams of specialists—engineers, economists, agriculturists, sociologists, educators—carefully prepared and armed with research results for work in the specific area to be aided.

Let me give a striking example of this. In 1961, the President of Pakistan, who had been primed by his science adviser, described to President Kennedy the problem of waterlogging and salinity that was progressively reducing the fertility of vast acreages of irrigated farm land in Pakistan. President Kennedy promptly asked his Special Assistant for Science and Technology, Dr. Wiesner, to see what he might do in helping to find a solution to this problem. Dr. Wiesner mobilized a panel of 20 U.S. specialists, both technical and nontechnical, and a solution was found. Computer models were constructed at Harvard's School of Applied Science which not only yielded a solution to this specific problem but also went further and yielded a balanced, comprehensive plan of soil improvement, agricultural development, including the use of fertilizers, weed killers, and pesticides, the development of suitable plant varieties, and sound marketing.

Another case in point is the study undertaken by our Center for International Studies at M.I.T. jointly with the General Electric Company, to determine the feasibility of certain electrification projects in India and in South American areas. This joint effort on the part of social scientists and engineers concluded that such electrification would not be economic and thus they were able to save large sums of money for the countries involved.

For a most interesting example of the secondary effects of technological development on societies and on international relations, I am indebted to Henry M. Boettinger. He has called attention to one of the underlying causes of what is currently happening in the Arab world, where we note today a growing sense of destiny, nationhood, and unity, some of it creating problems for our own foreign policy. He reports that a perceptive journalist has explained the sudden renaissance of Arab unity after the lapse of nearly a thousand years as being greatly influenced by the Japanese transistor radios distributed widely in that area. The journalist pointed out that "every camel driver, every oasis, every little village now had Japanese transistor radios which tuned to the Voice of the Arabs, the characteristic name for Radio Cairo . . . Now these widely scattered people, many illiterate, are suddenly able to receive a message in their own tongue which calls them to power and glory." When Brattain, Bardeen, and Shockley [36] were inventing the transistor around 1948, they hardly visualized this ultimate kind of impact of their invention.

Fifth, increases in population, growing urbanization, and the deterioration of urban environments are together creating undesirable changes in our urban life. Indeed we face a crisis in avoiding blight and the dehumanization of our crowded cities.

All about us today we see the encroachment of ugliness and crass utility on the beauty and benignity of our living environment. We are in a constant struggle against ugliness and bad taste, with ugliness too often triumphing. We see our wilderness areas invaded and our streams and harbors polluted. We see ugly struc-

tures built and land developments misplanned that in the long run can only be an economic waste and hurtful to the human spirit. We are in the midst of changes in which America the beautiful is in danger of becoming America the slum and America the blotched, unless courageous citizens and especially courageous engineers and economists and architects and politicians, both as professional men and as citizens, are willing to stand up and work and vote for a new level of humanness and benignity and conservation in our land.

If our society is to alleviate these ill effects of population growth, bad planning, bad taste and misused technology, the engineer must bring to the battle his special insights and specialized competence, his knowledge of technological trends and alternatives, pooling them with the specialized insights and competencies of other kinds of concerned professional men, including the politicians.

WE HEAR too often today the excuse that the misuse of technology is not the responsibility of the scientists and engineers who create it but rather of those non-scientists and nonengineers who misuse it. The new engineer of whom I speak believes that this is not a defensible position for any professional man to take in our society. On the contrary, he believes that, if the engineer is to be genuinely professional, he must be concerned with the social impact of his labors. He must feel his responsibility to join with other professional men in shaping technology to enrich the human condition and not to dehumanize it.

When beautifully conceived and designed communications systems, such as television, are put to tawdry and meretricious use, the engineer, no less than sociologists or ministers, has a responsibility to speak up for higher standards and better taste.

When a new highway, even though competently engineered, destroys recreational areas, or in other ways does avoidable damage to communities in its path, or is ugly and hurtful to the human spirit, engineers in that community share a responsibility to seek better solutions. Some of my colleagues at M.I.T., notably Professor Kevin Lynch, '47, who have been studying the visual aspects of roads, emphasize the possibility of designing highways to enhance the visual quality of a city and to be more nearly works of art.

When engineer-designed plants or devices, through improper use or regulation, pollute our air or waters or cause avoidable hazards to man, the engineer, with his specialized understanding of these plants and devices, has a responsibility to give other citizens the professional insights he, and only he, can bring to the problem and join them in seeking solutions. When advancing technology, even though it be temporary, causes dislocations and loss of jobs, the engineer must share in the management responsibility of cushioning the effects of the technological change he produces. He should not be neutral or indifferent or take the position that engineers can be responsible only for the quality of the engineering and not for its social consequences.



The Verrazano Bridge connecting Brooklyn and Staten Island has raised a great city's spirit as well as linked major highways.

Let me cite recent examples of how engineers have given a lift to the human spirit by their creations.

The recently opened Verrazano-Narrows Bridge has given a lift to the spirit of New York City not only because of its record length and utility but because of its beauty and dignity. It has been described as a "soaring symbol of man's spirit," an "inexhaustible font of loveliness," a masterpiece ranking next to Shakespeare "in the durability of its beauty." There is something of deep import in this outpouring of public delight in the great achievement of O. H. Ammann and his associates. The public is hungry for beauty, and it enthusiastically salutes engineering for so eloquently demonstrating that functional design can fulfill our highest concepts of beauty, grace, and dignity.

Some time ago The New York Museum of Modern Art presented a show of engineering structures and projects of functional, visual beauty, which, along with its best architecture, gives a special aesthetic distinction to our time. The engineer can enrich our aesthetic life, in many ways, but the products of his design do not have to be large, spectacular structures or public works, in order to be elegant. At the Lincoln Laboratory's great Haystack Microwave Research Facility, the great antenna and radome are of spectacular structural beauty, but to the perceptive there is beauty and elegance, too, in the mechanical design that gives the huge structure unprecedented precision and that sensitively harnesses the tiny electron.

Finally, I return to the opening of my essay by stressing again the special resources for ministering to the public welfare which are provided by a profession as varied in its orientation and many-sided in its skills as engineering. It makes a unique contribution to the common account today because it concerns itself with men as well as things, because it provides a coupling between science and society. Occupying as he does a vantage point for viewing the interrelations among the humanities, science, technology, and society, the engineer is in a strategic position to help in organizing the diversity of talents required for more effectively tackling some of the most pressing problems of our time—the deterioration of our cities, the crisis in transportation, assistance to underdeveloped countries, help for our own undeveloped industries, moderating the dislocations of automation, our diminishing water resources. These urgent problems require a systems, a comprehensive approach. They especially require men of a new capacity whose talents, skills, and outlook, inspired by humane values, range from a mastery of technology to a mastery of the arts of leadership.

It is the magnificent opportunity of the engineer today to join in interdisciplinary concert with the other professions to imagine a better human community, and through a new blending of technology, the social sciences, and the humanities, to devise the new social strategies and to provide its share of the leadership required to move ahead.

The Nominees For M.I.T. Alumni Posts

*Association's 72d President
will be elected this spring*

SAMUEL A. GROVES, '34, has been nominated to serve during 1965-1966 as the M.I.T. Alumni Association's 72d President by the National Nominating Committee headed by Hugh S. Ferguson, '23.

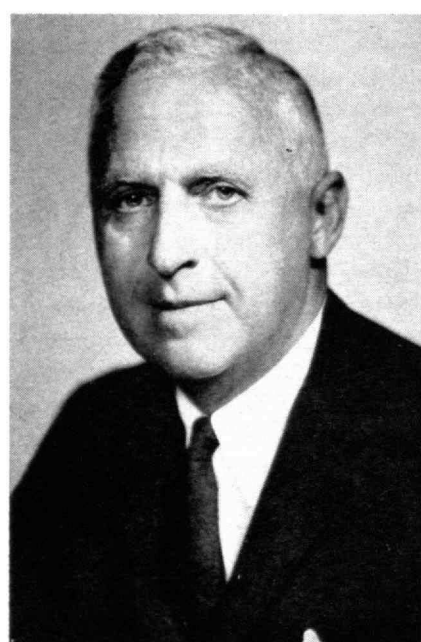
To be Vice-president for two years, the committee has nominated *Gregory Smith, '30*, and to join others on the Executive Committee for two years it has named *Harry E. Essley, '36*, and *Donald A. Hurter, '46*.

Members of the Association will also vote on proposed nominees for Alumni Term Membership (five years) on the M.I.T. Corporation. For this honor, the committee has placed the names of *Alfred E. Perlman, '23*, *Dayton H. Clewell, '33*, and *William S. Brewster, '39*, on the ballots.

(Concluded on page 40)



Samuel A. Groves, '34, has been nominated for the presidency in 1965-1966.



Nominees for Corporation are (from left) William S. Brewster, '39, Dayton H. Clewell, '33, and Alfred E. Perlman, '23.

The Origins of Our Universe

A concise review of men's speculations throughout the centuries about questions to which there are no precise, certain answers

By Harry A. Kuljian, '19

A COSMOGONY is a theory, hypothesis, or speculation about the origin of the universe, of the heavenly bodies such as our own sun and moon, and the stars. Such speculations were made from the very earliest times by primitive men. From the very beginning, men have wondered how the heavenly bodies came into being and how they became what they are now. They wondered how this universe looked at the beginning when there were no stars. Was it dark, empty, cold? Was there anything in space? If there was, was it divided into small or large masses? Was it at a standstill or in motion? Is space finite or infinite, and what are the reasons for thinking it is one or the other? There is no precise and certain answer to any of these questions, but there are carefully developed theories, founded in scientific knowledge, that could lead us to the answers.

Theories of cosmogony remained a matter of pure philosophical speculation, relying but little on empirical observation, until the time of Isaac Newton (1642-1727). Newton propounded the universal applicability of natural laws; that is, he maintained that the forces which we observe around us in our everyday lives must be in operation throughout nature. Thus, the force which makes an apple fall to the ground is the same force that keeps the planets in their orbits, and must have been active in the formation of the cosmos. In 1692, Newton wrote to Richard Bentley, Master of Trinity College, giving his ideas about the force of gravity in the formation of the universe:

"It seems to me that if the matter of our sun and planets and all the matter of the Universe were evenly scattered throughout all the heavens, and every particle had an innate gravity towards all the rest, and

THIS ARTICLE is a portion of *Man and the World of Science*, a book dedicated to the author's wife, "who asked the questions." Mr. Kuljian founded and heads the Kuljian Corporation, Philadelphia. He has designed and built scores of power and industrial plants, and has received several awards for outstanding engineering services. His book (copyright, 1964, A. S. Barnes & Co., \$6.50), written in nontechnical language, traces the impact of scientific achievements throughout history on men's lives and attitudes.



the whole space throughout which this matter was scattered was finite, the matter on the outside of this space would, by its gravity, tend towards all the matter on the inside, and by consequence fall down into the middle of the whole space, and thus compose one great spherical mass.

"But, if the matter were evenly disposed throughout in infinite space, it could never convene into one mass. Some of it would convene into another, so as to make an infinite number of great masses, scattered great distances from one another, throughout all that infinite space. And thus, the sun and fixed stars might be formed, supposing the matter were of a lucid nature."

Immanuel Kant (1724-1804) agreed with Newton on two points: that there was a primordial matter out of which all heavenly bodies were originally formed, and that gravity was the active force in this formation. He thought that gravitational force caused atoms to come together, to collide. The energy of their movement was converted into heat, which caused them to move faster and faster, colliding with ever greater frequency. Thus the nebula

of primordial matter began to rotate. As the velocity of this rotation increased, masses of hot matter were thrown off from the main mass to become planets. Thus the sun was the source of the planets which now rotate about it.

The theory of the French astronomer Laplace (1749-1827) also begins with a nebula of primordial matter. His idea was that the nebula was continually radiating energy. As the nebula continued to give off energy, it cooled and grew smaller. According to the Law of the Conservation of Angular Momentum, a body which is rotating and shrinking at the same time must rotate faster and faster about its axis. Whether the rotating body is liquid or gas, it cannot retain its spherical shape. The increased speed of rotation causes the body to bulge out around its equator and flatten on top and bottom until a critical stage is reached. At that moment, the centrifugal force at the equator is equal to the gravitational force which tends toward the center of the body. Thus, the equatorial ring and then successively smaller rings were left behind by the contracting nebula.

(Continued on page 44)

1,150 Bridges to America's Past

Looking for the covered spans left by pioneers and seeing how they were constructed is now a fascinating and restful hobby

By Ray Wilson, '12

THE gradual passing of the covered bridge seems to me a great pity. Its presence adds much to the beauty of the countryside and it is a reminder of those days when men had to solve mighty problems individually, unaided by machinery and manufactured products. In the replacement of these bridges with cold utilitarian structures of steel and concrete, we have lost a very real link with our past.

Up in New Hampshire, many years ago, my wife spent her vacations on a farm near a covered bridge over the Souhegan River. We were pleased to find it in good repair last year, resting on the original abutments of dry laid stone which had served it well for 125 years. It is in a picturesque, wooded spot over a swiftly running stream, just below the old swimming pool. As a girl, my wife pictured it as a sort of fairy tale house—not quite real, not completed.

Only five years ago, when we first took up bridge hunting as a hobby, there were nearly 1,400 in the United States. Today there remain only 1,150, of which some 50 have been bypassed by new highways. Some have been preserved, but many have been abandoned and are deteriorating. In Vermont alone, more than 100 were washed away in the flood of 1927. Perhaps 50 of those recently gone have been deliberately burned, either as a prank or by ruthless individuals who wanted a new bridge. Such vandalism has become all too frequent.

Some 10 years ago a society was organized in Boston to encourage this interest, and since then other

societies have been formed in Pennsylvania, Northern Ohio, Southern Ohio, Western Massachusetts, New Hampshire, and Indiana. Their membership now numbers over 1,700. Four of these societies publish quarterlies with gross circulations of perhaps 1,500. Members of these societies have been responsible for the preservation of about 80 covered bridges which otherwise would have disappeared.

From Coast to Coast

Contrary to general belief the New England states do not have the most covered bridges. All six states can boast of only 200, while Pennsylvania alone has about 300, Ohio more than 200, Indiana 130, and Oregon 95. There are 21 other states that still have from one to 28 bridges.

Country clubs, lodges, restaurants, building developments, and private estates throughout the eastern part of the country now have covered bridges. Sentiment for preservation of covered bridges varies, but usually interest increases as the number of bridges decreases.

In Pennsylvania a bridge recently was moved to a motel. An amusement park was built at another, a third was moved to a museum, and a fourth moved in part to a camping ground in New Jersey. In Maryland, a burned bridge was replaced with a new bridge of similar design. In Massachusetts two condemned bridges were replaced with new ones. Three Vermont bridges have been moved some distance to museums.

The history of covered bridges spans more than 2,000 years. Marco Polo tells of Chinese bridges "with very handsome roofs." A covered bridge is supposed to have existed in Babylon in about 780 B.C. In Switzerland, Austria, and Ger-

many there are now about 400 covered bridges including the Chapel Bridge in Lucerne, a footbridge built in 1333.

The first covered bridge in the United States was built in 1805 in Philadelphia across the Schuylkill River at Market Street. It was a three-span, 550-foot-long structure with heavy timber trusses and an arched roadway. This so-called Permanent Bridge was erected by Timothy Palmer, a "bridge architect" from Massachusetts and the first of many New Englanders to build covered bridges in the Middle Atlantic states. The bridge covering was added by local request in order to protect the massive framework from the weather. Such protection is the sole purpose of the roof and siding. Soon after this bridge was in service, construction of covered bridges was started over all of the larger rivers along the middle Atlantic seaboard, providing long-needed arteries out of the major cities and towns.

The Four Types

The most common types of bridge trusses used were the Burr, Town, Long, and Howe, which were named after their designers. In Pennsylvania the Burr truss was used except for bridges under 60 feet long, which employed a simple King or Queen post design. The Burr truss was patented in 1805 by Theodore Burr of Torrington, Conn. It consists of a series of connecting vertical and diagonal timbers to form a multiple King post truss which was fitted to top and bottom chords of heavy timber. This truss assembly is fastened with wooden pegs (tree nails or "trunnels") to a huge timber arch, either hand-hewn or made of laminated planks, extending the full length of the bridge with ends braced into massive stone abutments or foundation

MR. WILSON has seen 850 of the covered bridges left in the U.S. His home is in Swarthmore, Pa.

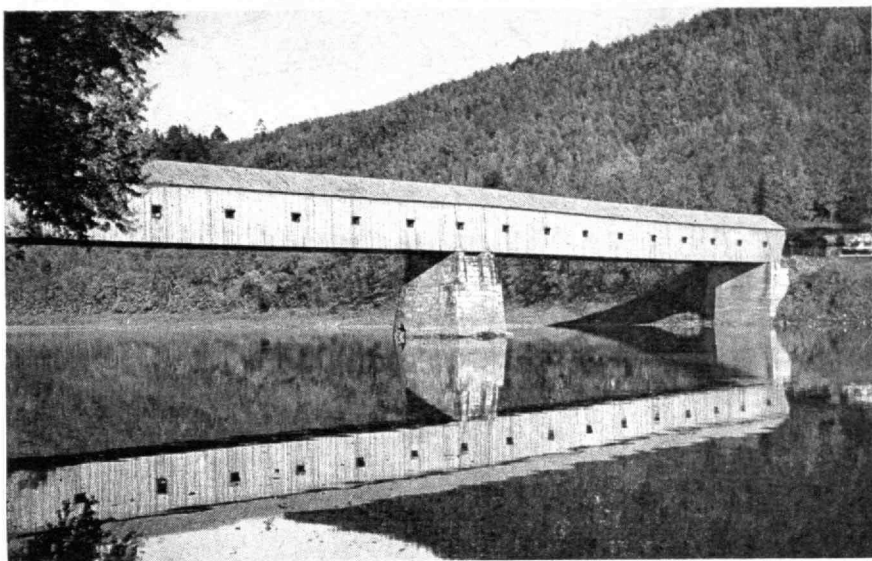
piers. The entire framework was built on temporary falsework on the river bed or sometimes on the ice. The members were set in place by men and horses using cant poles and rope and tackle, a tremendous undertaking.

The Town or "lattice mode," patented by Ithiel Town in 1820, was widely used in many parts of the country since almost any good carpenter could hew and peg the lighter timbers of the lattice members on the ground, and then roll the entire truss into place on the falsework across the stream. Bucks County has the only bridges of this type in Pennsylvania.

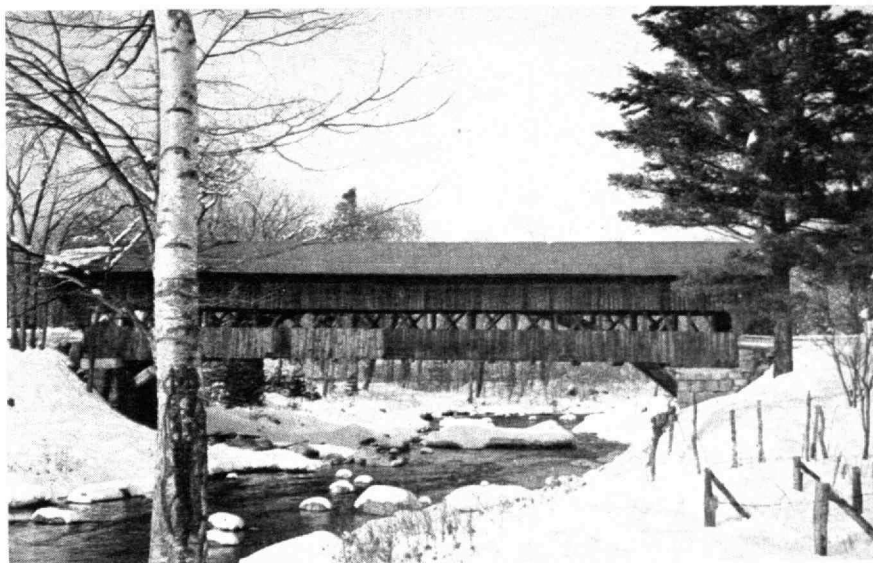
The Long truss, patented by Colonel Stephen H. Long in 1830, consists of timbered box-X panels. It had only been in use for 10 years when the Howe truss was patented in 1840 by William Howe. This was of a design similar to the Long, except that iron rods were substituted for the vertical timber posts. Howe trusses were lighter and more easily assembled, and their use rapidly increased as steel became more available. In fact, they are used exclusively in the newer bridges on the Pacific Coast.

Most covered bridges were erected in the period between 1820 and 1881. Thousands were built as far west as Kansas, both for highways and railroads. Expansion to the West did not come until the late forties, and about a thousand covered bridges were constructed there between 1850 and 1900. There are now about 150 bridges in the Pacific coastal states, mostly built after 1910. The massive older bridges that were first thrown across the important rivers of the East ranged from 500 feet in length to the 5,690-foot structure over the Susquehanna at Columbia, Pa., but most of them

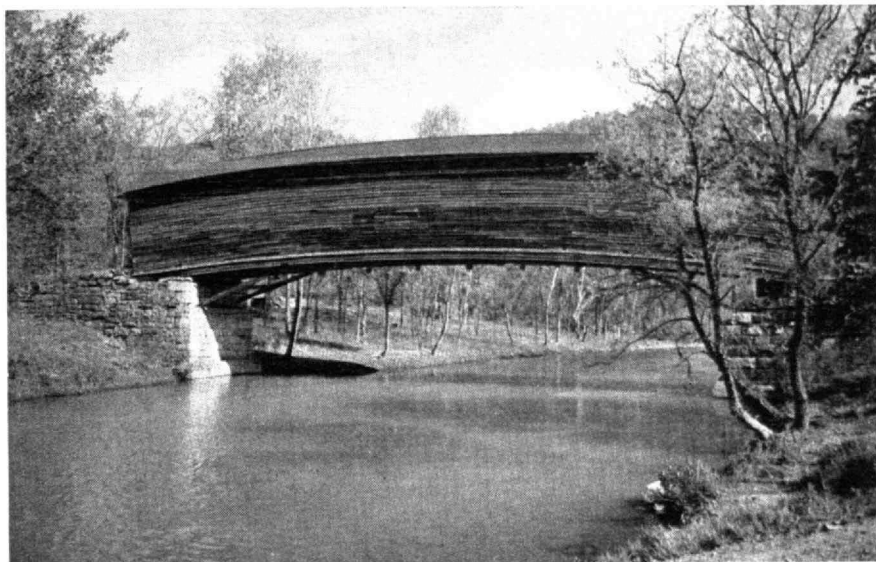
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The longest covered bridge in U. S. is between Cornish, N.H., and Windsor, Vt.



The Honeymoon Bridge at Jackson, N.H., a modified Burr truss, was built in 1876.



The Humpback Bridge near Covington, Va., is the only one of its kind remaining. It was built of hewn oak held together by locust pins and is now in a roadside park.

Structural Models Feed a Computer

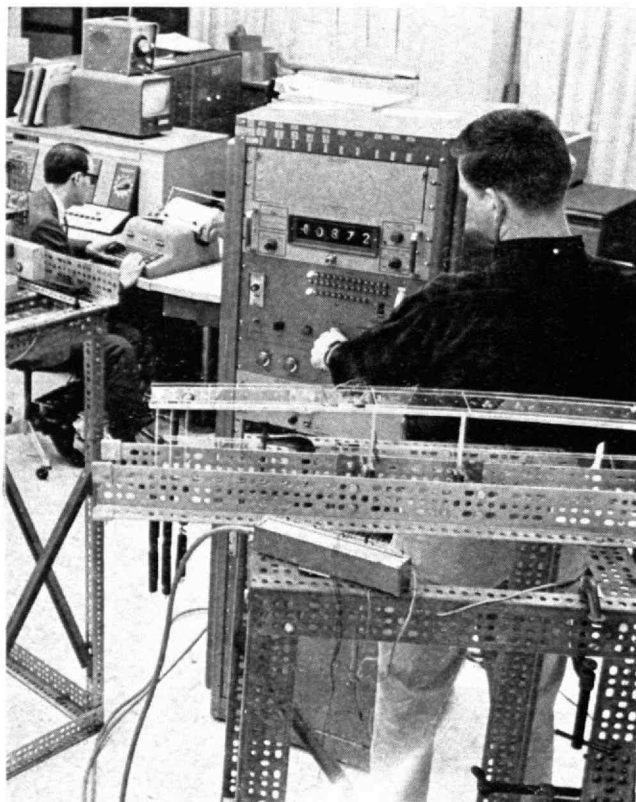
Experimenters see how a whole building behaves and now have a means to achieve better design

A NEW data link in the M.I.T. Laboratory for Structural Models is speeding the process of testing and analysis. Sensing devices attached to models feed information directly into one of the computers in the Department of Civil Engineering. Thus an experimenter can observe the behavior of a structure as it reacts to applied stresses, and the facility is adding "a new dimension to testing techniques," according to Professor Robert J. Hansen, '48, Laboratory Director.

The laboratory's objective is to make the use of models rapid and inexpensive enough for teaching purposes, and accurate enough for design. Some structures are so complex, says Professor Hansen, that a student cannot

comprehend their total behavior through the maze of necessary computations. Inventiveness may wane in the labyrinth of analysis, and so models may help produce better design. Besides, mathematical solutions do not exist for some structures.

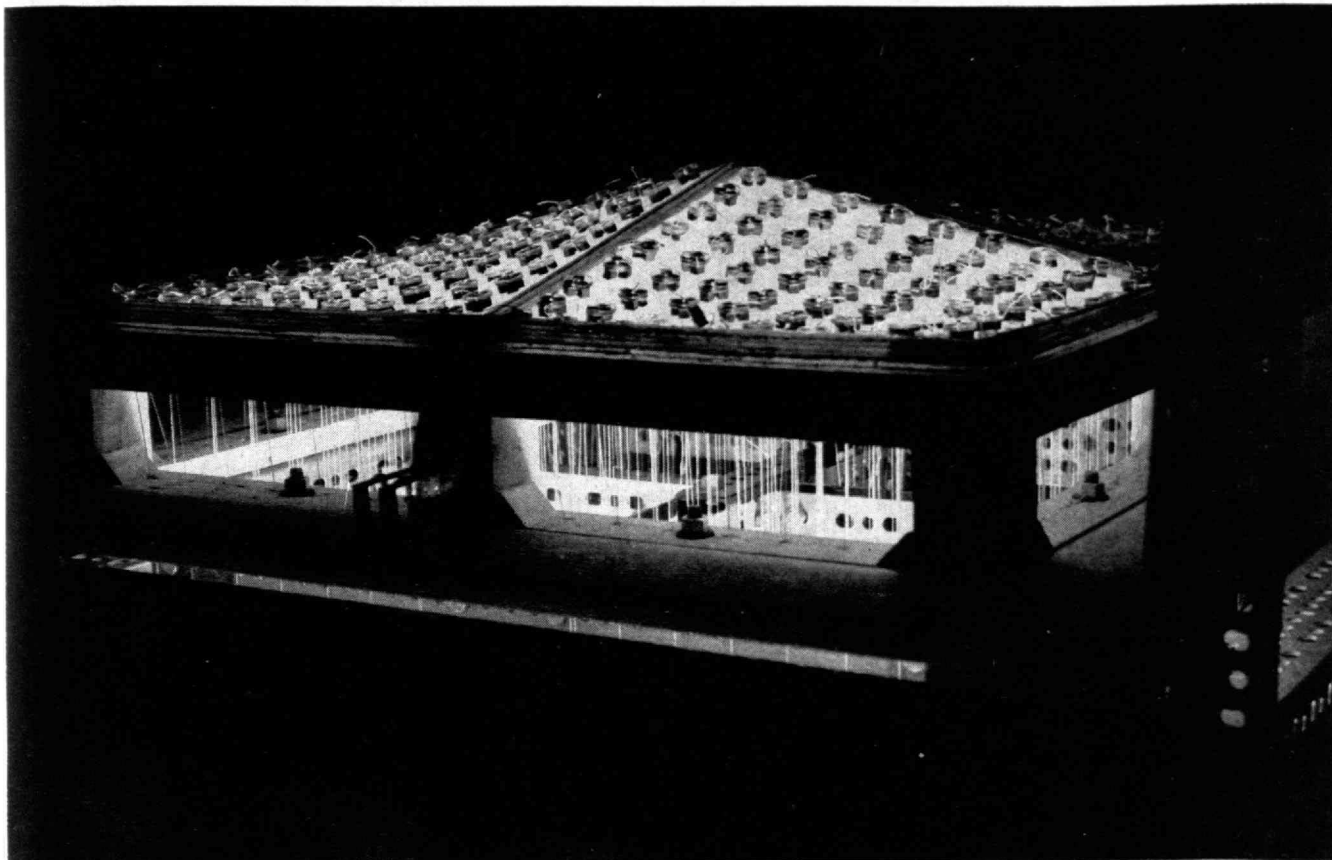
Usually it costs too much to build a full-scale prototype and then test it until it collapses. Yet engineers want to know not only how a building behaves under normal loads but also how it would fail. In this respect models are useful, especially in the design of structures such as nuclear power plants. Pictured here are some of the laboratory's models and methods that will be used also in a forthcoming special Summer Session program.



The data link to the IBM 1620 computer, at left, permits the testing of models nearby or from another laboratory. Here, a test is run on a cantilevered beam in foreground.

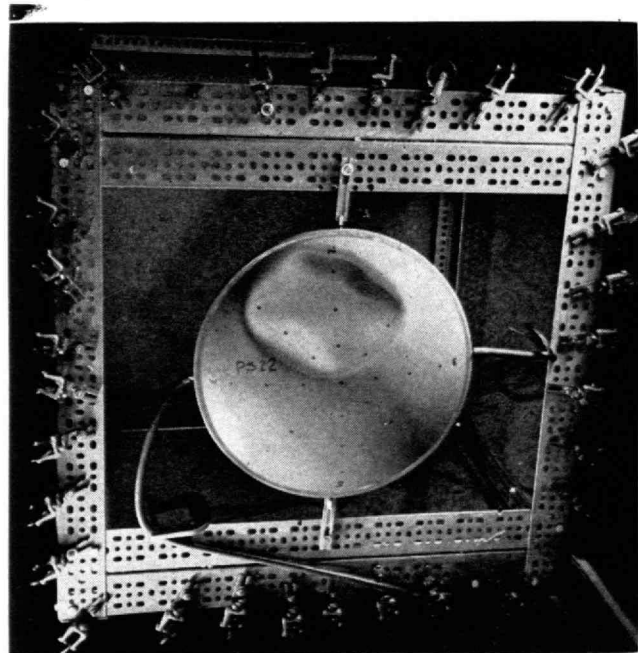
Better understanding of parabolic arches like the one at right may help to reduce the cost and weight of bridges. This plexiglass model is loaded as a real bridge would be.





Appearing habitable with its inner light, this model consists of four hyperbolic paraboloids held on edge beams. Thick piers are part of "catcher" apparatus. Roof really is supported by four pillars, one in the center of each side.

Chimelike weights of $1\frac{1}{4}$ pounds each deflect the 28-inch plexiglass model, right, of a rib-reinforced cylindrical shell. Like model above, this one serves in a study of buckling.



Camera looks down on a flexible shell that buckles when air pressure inside is reduced. The load that will cause buckling varies as the support at the edge of shell changes.



The Trend Of Affairs

A Cosmic Mystery Microanalyzed

ASSOCIATE PROFESSOR Robert E. Ogilvie, '52, and his colleagues in the M.I.T. Department of Metallurgy will give a special summer course next June 21 to July 2 dealing with "The Electron Microanalyzer and Its Applications." The microanalyzer was developed within the lifetime of even the youngest Alumnus, and is an instrument with which atomic diffusion in solids can be detected and measured. Such diffusion is the controlling factor in oxidation, age hardening, metallic bonding, and other phenomena of much concern to engineers.

Professor Ogilvie and his associates have shown that the microanalyzer also can solve puzzles for both art historians and cosmologists. He and Norman L. Peterson, '57, used the instrument five years ago to identify a paint pigment and thereby prove for the Boston Museum of Fine Arts that a portrait was a forgery. Since then he and J. I. Goldstein, '60, with the help of a 7090 computer, have demonstrated that the instrument can be used to ascertain the thermal history of meteorites and the size of the parent body from which they came.

Meteorites have been subjected to intensive scrutiny for centuries because they have been the only extraterrestrial material available in laboratories here on earth. Their chemical composition suggests that they are remnants of some heavenly body shattered in a collision with some other such body, but theorists differ as to the size of that parent body.

Many meteorites contain iron and nickel and some of these, when polished and etched, can readily be seen to have a peculiar structural pattern. It is called the Widmanstätten pattern and distinguishes meteoritic material from other alloys of these metals. In this pattern, M.I.T. researchers have shown, the thermal history of meteorites can be read now with the microanalyzer's help. From that history, in turn, the parent body's size can be computed.

The microanalyzer is a combination of an electron microscope and x-ray spectrometers. It includes an electron gun and two reducing lenses with which a beam of electrons one micron in diameter is directed at a specimen of material. This beam causes the specimen to emit x-rays, and by analyzing these rays with two or more spectrometers the chemical constituents of the material can be determined with great precision.

The Widmanstätten pattern observed in polished sections of meteorites consists of bands crossing each other in two, three, or four directions. These bands contain less nickel than the matrix. The rejection of

nickel from these areas has resulted in nickel-rich areas adjacent to the bands. Such a pattern is the result of atomic diffusion in an originally homogenous material that has cooled very slowly. With the microanalyzer, the precise amount of nickel in the center of the bands, in the enriched area adjacent to them, and in the rest of the meteorite can be plotted. In such a plot, a meteorite's thermal history can be read, and those analyzed by Dr. Goldstein were found to have been cooling for 100 million years. By fitting this data into various models, Dr. Goldstein went on to show that meteorites in the group he had examined came from a parent body with a radius of about 200 kilometers.

This reconstruction of events far away and long ago was supported by the Smithsonian Astrophysical Observatory. It does not account for the presence of diamonds in some meteorites and further research will be necessary to satisfy all of the theorists who have concerned themselves with the origin of meteorites, but the microanalyzer's usefulness has been established.

From 40 to 50 engineers and scientists have become familiar with the microanalyzer at M.I.T. each year since it became the subject of a special summer course in 1959. Advances during the last five years have been chiefly in the physics of x-ray analysis, and these as well as applications of the instrument to date, will be covered in the lectures this summer.



POLYMERS that conduct electricity are shown here as black strips of plastic material "painted" on an ordinary white insulator. Patents for these new conductive plastics have been applied for in the names of (from left) John H. Lupinski, Kenneth D. Kopple, '51, and Jerome J. Hertz of the General Electric Laboratory.

In Behalf of the Blind

THERE are about 400,000 blind persons in the United States, and another 600,000 whose vision is so impaired that they must often function as though blind. The percentage of blind persons in the population has been increasing, but the best known aids for the blind are still the cane, the seeing-eye dog, and Braille. A new Sensory Aids, Evaluation and Development Center, established in association with M.I.T., will attempt to bring advances in technology to bear on the problems of blind people.

It has been set up for a five-year program, and has an initial contract of about \$100,000 for the first year from the Vocational Rehabilitation Administration of the federal Department of Health, Education and Welfare. The objectives will be to evaluate and production-engineer promising laboratory prototypes and facilitate their introduction into service for the blind and deaf-blind. M.I.T. will operate the center as the host institution under the guidance of a steering committee that includes faculty from Brandeis, Harvard, M.I.T. and Tufts.

Professor Robert W. Mann, '50, is chairman of the steering committee, and also a member of the Committee on Prosthetics Research and Development of the National Academy of Sciences. To increase the scope of the center, a scientific advisory committee will be selected later from the national research community and rehabilitation agencies. The managing director of the center is John K. Dupress, who directed technological research at the American Foundation for the Blind from 1958 to 1963, and has been a research associate at M.I.T. since 1961.

In the first year, says Mr. Dupress, priority will be given to evaluation of eight prototypes of a high-speed electric Braille writer developed in the M.I.T. Department of Mechanical Engineering under the direction of Assistant Professor Dwight M. B. Baumann, '57. This device is designed to be operated from a punched-card or punched-tape reader, a one- or two-hand Braille keyboard and a variety of other inputs. Future plans call for an electric typewriter-to-high-speed Braille embosser in which simultaneous print and Braille copies could be prepared at high speed. A sighted typist could generate Braille copy for a blind person working in the same office.

Work also will be continued on a computer program written by Robert Gammill of the M.I.T. Mathematics Department to convert teletypesetter tape to an input for a 704 or 7090 Grade II Braille program. The teletypesetter tape is widely used in the publishing industry, and the speed of a computer could make newspapers available to the blind on the day of publication. Since most high school and elementary textbooks are set in type by means of punched paper tape, the aforementioned computer program and related computer programs also could be used to augment the number of textbooks available for the country's 15,000 blind children.



Mr. Dupress reading from a moving Braille-belt mechanism.

Special recreational aids for blind children have been developed over the years, and one of the newest is a ball that produces sound cues as it travels through the air. This ball, about the size of a basketball, contains a battery-operated system that produces a continuous tone that blind children can follow. Other devices requiring further development and evaluation include a hand-held inertial guidance unit to help blind persons navigate in open areas and electronic mobility aids with which objects and terrain changes can be detected.

Reports to the Alumni Council

PRESIDENT JOHNSON'S budget message on January 25 called for U.S. expenditure of \$20,000,000 on research to solve the Northeast Corridor's transportation problem (*see Technology Review*, December, 1964, page 29). That evening, at the regular monthly meeting of the M.I.T. Alumni Council in the Faculty Club, Professor Robert J. Hansen, '48, described work under way at the Institute which was influential in the formulation of President Johnson's recommendation.

Samuel A. Groves, '34, Vice-president of the Alumni Association, presided and also called on Ross H. Smith, Director of Athletics, to speak. Mr. Smith enthusiastically described a meeting of the M.I.T. Club of Rochester that was arranged to enable present-day students at the Institute to describe their activities for the benefit of both future students and Alumni.

Professional Experience Abroad

THE FORD FOUNDATION has granted \$648,000 to the Sloan School of Management to continue the M.I.T. Fellows in Africa Program and to begin a new program in Colombia, South America. Under such programs, young men of outstanding merit in management and law go to developing countries to work for two years in government ministries and other agencies formulating and carrying out development projects. John Howard, Director of the Foundation's International Training and Research Program, and Professor Carroll L. Wilson, '32, Director of the M.I.T. Fellows program, announced the new grant in January.

The M.I.T. grant was one of five totaling \$2.5 million to increase overseas opportunities for young Americans who have recently completed graduate or pro-



M.I.T. Fellows are serving now in nations shaded here.

fessional training. Other grants went to Syracuse, Cornell, Purdue, and New Mexico. The M.I.T. and Syracuse programs have been under way since 1960; the other three are new extensions of the earlier plans. M.I.T. has sent 33 Management and 10 Law Fellows to 12 African nations since 1960, and 16 serve now in Kenya, Uganda, Zambia, Nigeria, and Mauritius.

Management Fellows generally are young men who have completed the two-year program leading to the master's degree at the Sloan School. By working as junior officials in development agencies, the fellows are able to contribute to economic progress and at the same time acquire professional experience at high levels of responsibility. They serve in finance ministries, economic planning ministries, development banks, and public utilities.

Fellows are paid by the host countries at local compensation levels. Ford funds are used to supplement

these salaries and to provide for transportation and an annual conference, usually held in Europe, where all fellows share their experiences. Returning fellows are invited to fill appointments in the Sloan School.

A Voice From Babel, America

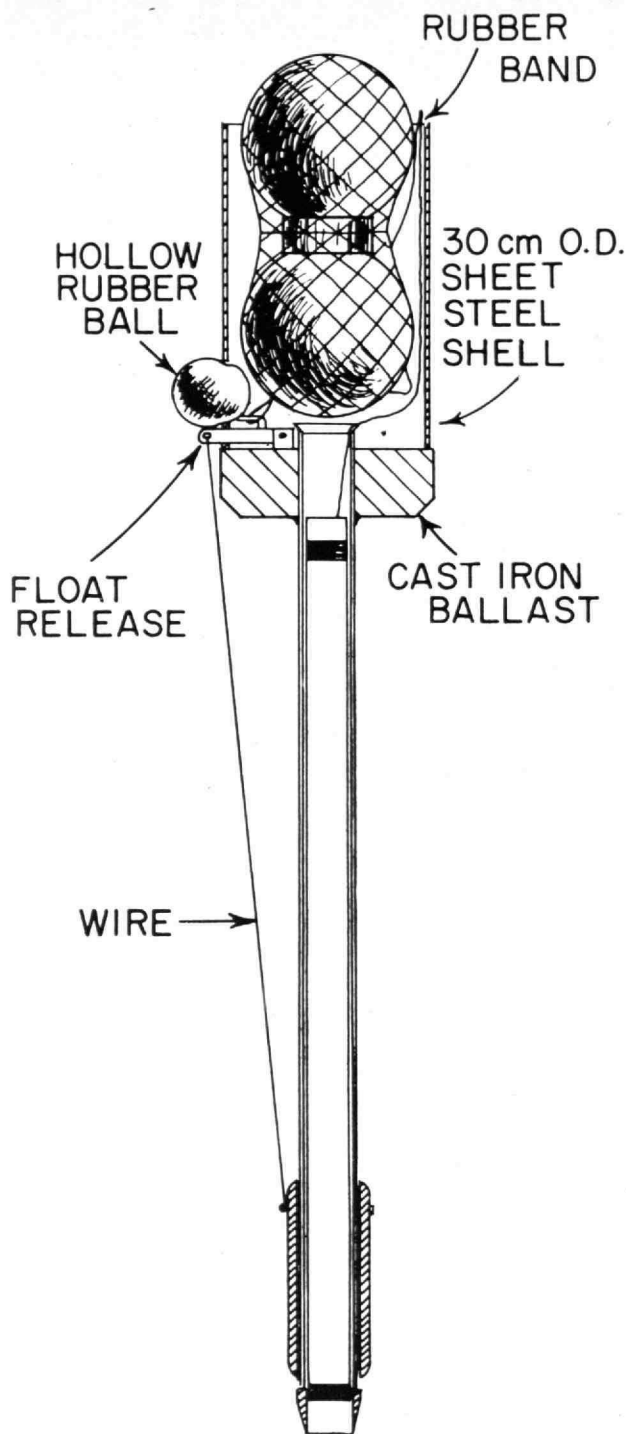
AMERICAN INDIANS spoke thousands of different languages, many of which are dead. One that was supposed to have died is being spoken now, however, in the Research Laboratory of Electronics at M.I.T. It is Catawba, a language once used in the Carolinas that especially interests linguists because it resembles early Siouan—the predecessor of many languages formerly heard throughout the Great Plains.

Siouan is one of 10 or so great families of languages in which linguists have grouped most of the American Indian languages. With National Science Foundation support, G. Hubert Matthews, Associate Professor of Modern Languages, has for several years been studying Hidatsa, a member of the Missouri branch of the Siouan family, and he recently completed a book on "Hidatsa Syntax." By such studies, linguists at M.I.T. and elsewhere are striving to discover whatever aspects may be common to the great variety of rules and conventions by which men have succeeded in communicating with each other. Such discoveries, it is believed, could be helpful both to students of the human brain and to builders of modern mechanisms.

While studying Hidatsa, Professor Matthews went to a powwow in Grafton, Mass., and was surprised to hear an entertainer there speak Catawba. He was Carlos Ashbie Hawk Westez, a native of Rhode Island now residing in New York City who is known professionally as Red Thunder Cloud. Mr. Westez had learned Catawba from his grandfather.

As Red Thunder Cloud, Mr. Westez has lectured widely on Indian lore and won many trophies dancing with his wife and two sons. They also have recorded "A Child's Introduction to the American Indian," the first high-fidelity, long-playing album of its kind. As a technical assistant in the Research Laboratory of Electronics now, Mr. Westez is helping Professor Matthews record the syntax of Catawba.

Professor Matthews came to M.I.T. from the University of Pennsylvania and Indiana University to work on mechanical translation of languages. This venture demonstrated the need for deeper understanding of the phenomena involved in human communication and has aroused interest at the Institute in many strange languages. Catawba differs from modern European languages in numerous ways; it has words, for example, that take the place of punctuation marks, and its vocabulary is more indicative of ancient affairs than of modern life. So, in addition to learning Catawba's syntax, Professor Matthews has learned a lot about Indian beliefs, cures for toothaches, etc., that otherwise might never have been recorded. From such folklore, perhaps, more may be learned about men's notions and migrations when America truly resembled the Tower of Babel.



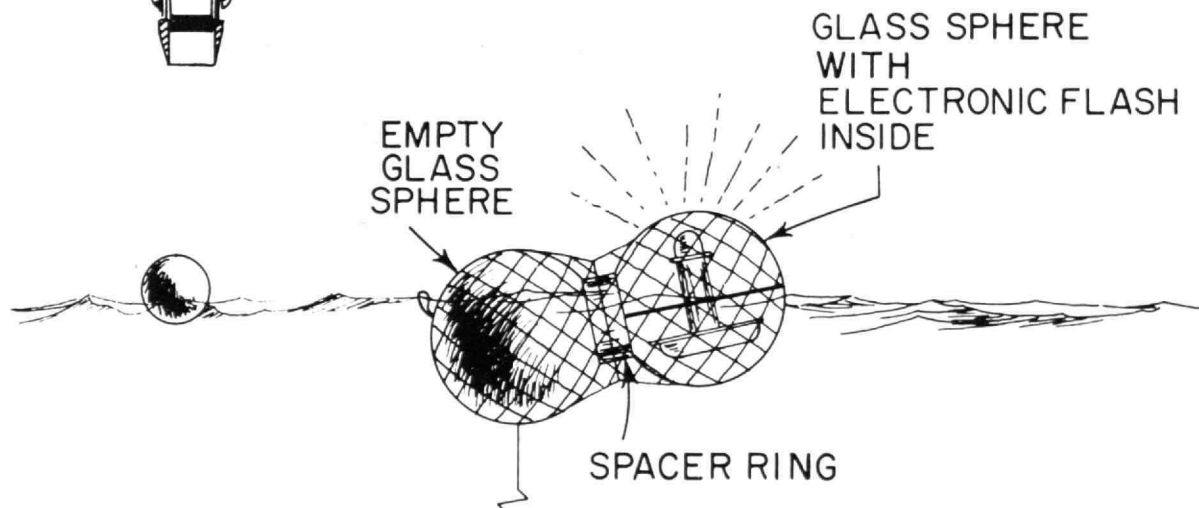
Bottoms Up

OCEANOGRAPHERS can now obtain samples of the ocean bottom with a device that has no strings attached. Developed at the Woods Hole Oceanographic Institution, it is called a "free-corer."

Sampling ocean sediments generally has been done with metal tubes attached to long wires. Such a corer is lowered into the sea until it hangs about 25 meters above the ocean floor, then is allowed to fall free so that it drives into the bottom. Men aboard ship haul in the wire and the tube with its slug of sediment, which may reveal much about the geology and geological history of that area of the ocean. But wire-line coring is often difficult, time-consuming, or impractical because of the length of the line and drifting of the ship. Free-corers are simply tossed over the side and an oceanographic vessel can make a series of corings in a target area much like a military plane on a bombing run.

As developed by P. L. Sachs, of Woods Hole, and Samuel O. Raymond, '50, of the Benthos Company, the free-corer consists of a heavy disposable coring unit and a flotation assembly. Dropped from a moving ship, the corer falls at a velocity of 425 meters per minute and spears into the bottom, forcing a column of sediment into a plastic liner tube. The impact releases two hollow plexiglass spheres connected to the plastic tube by two meters of nylon line. When the spheres reach the end of their tether, they tug the sediment-filled liner free and rise to the surface with it. An electronic flash in one of the spheres signals its whereabouts to men aboard the ship. To insure against collapse in deep water, the spheres have been tested to pressures corresponding to depths of about 6400 meters.

The device makes it possible to do precise coring and, because of its high impact velocity, to get samples even from soft rock, according to a report in the magazine *Oceanus*. The first extensive use of the corer was in a study of the Mid-Atlantic Ridge, and out of 24 drops, 23 cores were recovered.

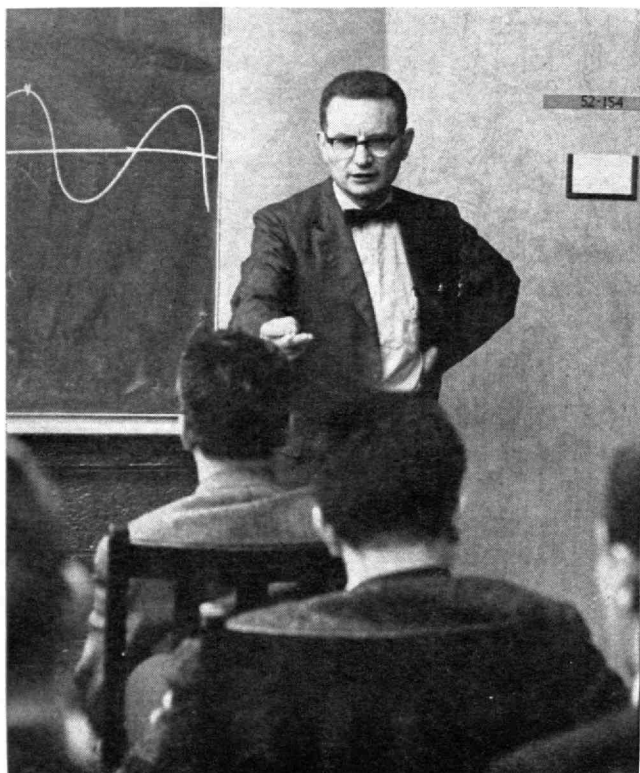


Ballast takes the corer down (top) and floats bring back a sample. The device is a powerful new tool in oceanography.

Economists' Top Economists

AT THE American Economic Association's meeting in Chicago this winter, Professor Robert L. Bishop was "gratified but not surprised" by the results of a poll of his fellow economists at 85 colleges throughout the country. It showed that they consider the quality of the faculty responsible for the graduate program in economics at M.I.T. second only to that of the Harvard faculty, and the M.I.T. program the most effective in the nation.

"We're Avis," Professor Paul A. Samuelson quipped to *Newsweek*. "We try harder."



Professor Samuelson: Lively teacher of "the dismal science."

Allan M. Cartter, Vice-president of the American Council on Education, announced the consensus in the poll of the M.I.T. economists' peers, but the verdict had been anticipated by outstanding students. According to Professor Bishop, Acting Dean of the School of Humanities and Social Science, the M.I.T. program now typically attracts more National Science Foundation fellows than the offerings in economics of any other school. This is accounted for, says Professor Samuelson, by the M.I.T. faculty's strength in statistical, quantitative economics, which is the current trend.

Professor Samuelson has been an adviser to both the Kennedy and Johnson administrations, and 40 per cent of the students taking introductory economics in American colleges now use his textbook, *Economics: An Introductory Analysis* (McGraw-Hill, \$7.95).

But the recent poll reflected the status of a group rather than an individual—a group distinguished by the inclusion of many other highly regarded scholars.

To Improve Schooling

BOREDOM can be banished from the classroom by knowledge, James R. Killian, Jr., '26, told the M.I.T. Club of Central Florida this winter. He spoke particularly of the work of Educational Services Incorporated, a nonprofit organization of which he is chairman.

"We have learned that children are a lot smarter than we ever suspected," he said, "and they, in turn, are learning that we may be somewhat smarter than they ever suspected."

Since demonstrating the feasibility of curricular reform in the physical sciences, he continued, Educational Services Incorporated has turned to the social studies, and these have posed a different problem.

"Social studies," said Dr. Killian, "has been an abstruse, unstructured amalgam of history, civics, sociology, geography and what all, tied together by a wastebasket full of information discarded by the social sciences and humanities. It is anything from good citizenship to good driving. Common practice has been memorization, routine rote learning that must be accepted by fiat, aimed at giving the student some small awareness of man and his activity as a social being. The social studies curriculum was generally not conducive to examining critically and constructively the living history of which the student is a part. Nor did it generally give him a background to use his knowledge—in the sense of what he learned in school—as a responsible citizen appreciative of the tremendous forces that formed our democracy."

Further research and development are needed not only to build new curricula but to find ways to educate prospective teachers more effectively, Dr. Killian contended, and he urged that other organizations similar to Educational Services Incorporated be set up regionally.

Gone to the Museum

THE M.I.T. Instrumentation Laboratory this winter gave its 1½-ton SPIRE (*Space Inertial Reference Earth*) guidance device to the Smithsonian Institution.

On February 8, 1953, Professor Charles S. Draper, '26, Roger B. Woodbury, '48, and others involved in SPIRE's development took off with it in a B-29 from Boston to see if it could fly them to Los Angeles. At 10,000 feet, Pilot Charles L. Collins turned the ship over to SPIRE and it took them along a great circle route to McCook, Neb. There, Collins partially took charge again to get the plane up to 20,000 feet. The weather over the Rockies was rougher than forecast, and the plane hit an unforeseen jet stream that worried even Professor Draper about SPIRE's reliability, but the lights of Los Angeles came into view as anticipated.

Full documentation of this historic flight was sent to the Smithsonian with SPIRE. "How we wish that everyone would do as thorough a job," Curator Kenneth E. Newland of the National Air Museum wrote, in acknowledging the gift, "but of course thoroughness is standard procedure at M.I.T."

The Housing Problem at M.I.T.

A major construction and remodeling program is envisioned to accommodate future students

By Frederick G. Fassett, Jr.

Dean of Residence

SOMETHING MORE than 2700 students and wives and children of students were in residence in Institute buildings on the Cambridge Campus as we reached the mid-point of the academic year 1964-1965. The Undergraduate Houses, including Bexley Hall in its entirety, were at capacity with 1665 men, as was the Graduate House with 430 graduate men assigned. McCormick Hall began its second year of operation with a complete roster, of 106 undergraduate and 10 graduate women. At Westgate, more than 200 students were domiciled; their spouses and offspring brought the total population there to some 500. Thus much for those physically established on campus.

In addition, about 1200 undergraduate men residing in the M.I.T. Student House and the 28 fraternity chapter houses in Cambridge, Boston, and Brookline are rightly regarded as "on campus" philosophically if not physically, for their ties with the Institute are far stronger than those of the apartment or rooming-house groups.

A resident group of students and student-related people numbering nearly 4000 is thus occupying Institute or Institute-related housing during this school year. Total registration is approximately 7085. These figures make an interesting contrast with those of 30 years ago, when the Faculty Houses and the Alumni Houses were occupied by 600 students, 85 or so of whom were graduate men occupying three entries of the Faculty Houses; the 21 fraternities then accounted for 625 undergraduates, and for the then handful of married students there were no M.I.T. provisions. Total enrollment then was 2507.

Fifteen years ago, when total enrollment had more than doubled, and stood at 5458, the 24 fraternity chapters and two probationary groups accounted for 893 students, the present Graduate House for 452, and the addition of Baker House, then known simply as the New Dormitory, brought the total accommodations for undergraduate men to approximately 1400—of which many were more or less second-rate, 350 of them being in barracks quarters in Temporary Building 22 of sainted memory and another 120 resulting from the conversion of double rooms to triples in the Alumni and Faculty Houses. Seventeen women students occupied the Women's Dormitory at 120 Bay State Road in Boston and the erstwhile village of Westgate, with its hundred little houses and 17 two-storey barracks

apartments, was home to some 860 persons, of whom 270 were students, the others their wives and children.

Let us recapitulate in tabular fashion:

	Enrollment	In Residence
1934	2,508	1,225
1949	5,458	3,623
1964	7,085	3,900

There are some interesting proportional relations among these statistics; they are left, however, as an exercise for the student. Observation is made here, on the other hand, of the conspicuous bulge in the right-hand figure for 1949 as compared with the right-hand figures for 15 years earlier and 15 years later. That bulge represents both the extreme pressures of the immediate postwar years and the spartan measures that were taken to meet them. Much of the effort of the past decade, with the invaluable support of the Alumni Fund, has been to replace such austerities by amenities, and to bring all of the existing dormitories to a higher level of comfort and civility. Good progress has been made, but more is needed, and a fair share of it will result in reducing the number of beds available, especially in Burton House and Conner Hall.

If that last fact is borne in mind, and a glance is had at the following figures:

	Enrollment	In residence In proportion
1975	7,500	

which are based on long-range studies by the Institute Planning Office, it becomes clear that great importance attaches to two sets of innovative decisions made during the past academic year.

The first set is the heart of "An Interim Report on Housing for Undergraduate Men at M.I.T." made by the Faculty Committee on Student Environment as the result of studies carried on for three years. The report, received with favor by both the Faculty and the Corporation Visiting Committee on Student Affairs, declared: "We are pleased with the strength inherent in our present system through the flexibility provided by Institute-owned, fraternity, and 'independent' living groups, our strong and responsible student government, and the success of the 'pilot' program of our unique Housemaster-Tutor plan of faculty residency. On balance, however, we believe that we have not yet achieved sufficient Faculty involvement in residential programs. Further, we hold the view that the present Institute-

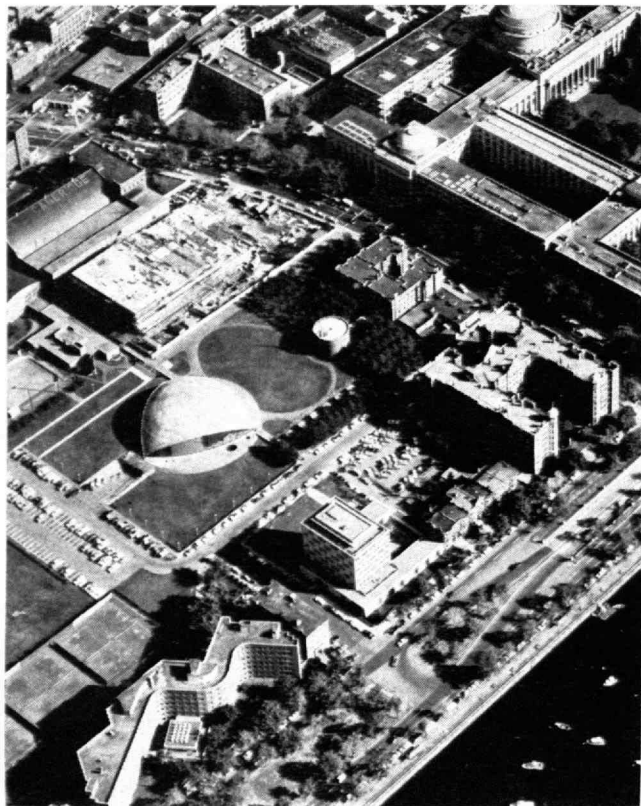
owned houses are inadequate to handle the number of undergraduates who should be accommodated or to provide a sufficiently high quality of residence for those who do reside in them."

The Institute should continue, the committee held, to support the development of independent living groups as far as possible, and should undertake a major remodeling and construction program for its own system, to upgrade it and to increase its capacity to about 2000 beds. Specifically, the committee called for a major funding effort to secure some \$14,000,000 to finance its long-range program. This includes three primary undertakings:

- The construction of two new houses on West Campus to house about 300 students each, at a cost of about \$8,500,000;

- The major remodeling of the student room areas of Burton House and Conner Hall, minor remodeling in Baker House and the Senior House, major remodeling of the East Campus Parallels, including the construction of two wings connecting the present buildings, and remodeling of the north side of the second floor of Walker Memorial to provide common and dining rooms for the Senior House, all at a cost of about \$3,500,000. The proposed remodeling would of course have to be co-ordinated with the recommended new building, in order to accommodate students displaced during the changes; and

- The funding of the Housemaster-Tutor program as an academic expense by means of a specific endowment of some \$2,000,000.



A new Student Center is nearing completion now between Kresge Auditorium and the Massachusetts Avenue dome.

The second set of decisions, developed independently but fitting exactly this committee's recommendation for the fostering of independent living groups, is the culmination of work begun several years ago in an endeavor to find ways and means for closer collaboration between the Institute and its fraternities, particularly as those are represented in the alumni corporations which own and maintain the several chapter houses. It finds expression in two ways: First is the establishment by the Institute's Corporation of the Independent Residence Development Fund as an adjunct of the Alumni Fund itself. Second and obviously closely interrelated with the first is the formation on a continuing basis of an Alumni Interfraternity Conference made up of representatives of the 28 alumni house corporations.

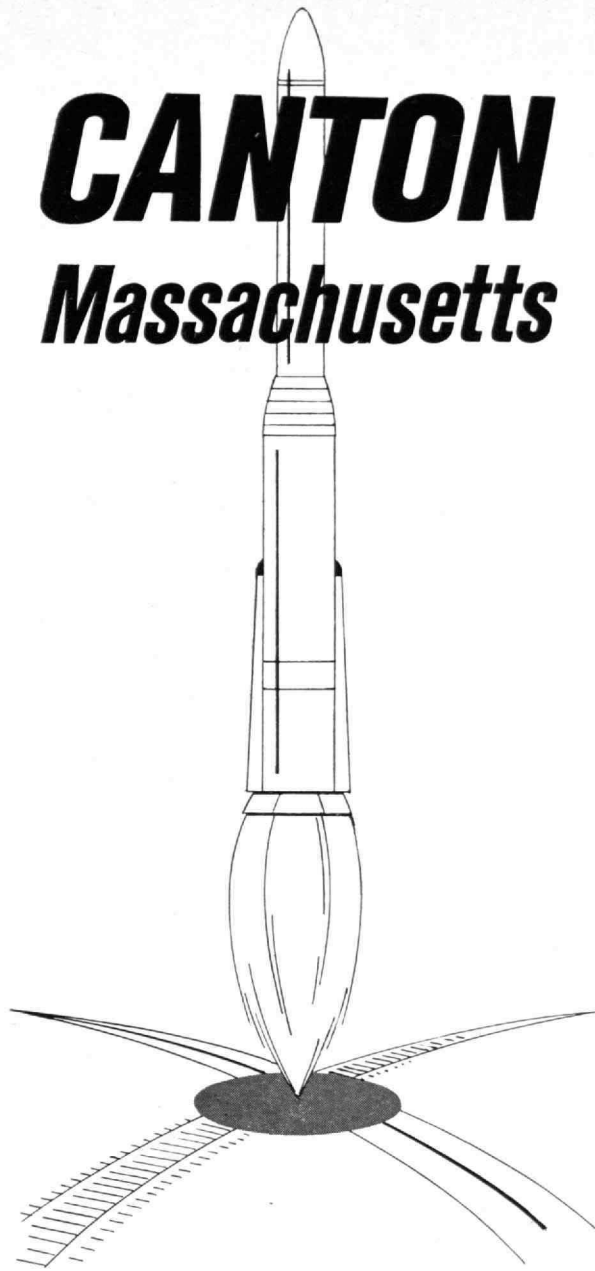
The Corporation's action in establishing the Independent Residence Development Fund was taken at the request of Alumni as represented in the Alumni Interfraternity Conference. The fund itself is an endowment, the income of which may be used in the discretion of the Corporation for any Institute purpose. The fund, the present goal for which is \$2,500,000, may be invested in loans to independent house corporations at very favorable terms, and thus the improvement or expansion of existing independent houses or the purchase of new ones may be financed. Fund allocation will be determined by a board appointed by the president of the Institute, which comprises Walter J. Beadle, '17, Julian T. Leonard, '18, and Gilbert M. Roddy, '31.

Naturally, both the raising of money for the fund and the judicious use of it for the improvement of independent residences call for close co-operation and a lot of joint effort. This is already well under way through the action of the Alumni Interfraternity Conference, under the chairmanship of Marshall B. Dalton, '15. Studies of several areas in Cambridge and Boston with a view to their suitability for independent residences are being carried on by a special committee of the conference. Another special committee is conducting structural surveys of existing independent residences, with the collaboration of appropriate experts from the Institute staff. The conference is collaborating with the Alumni Fund Board under the chairmanship of D. Reid Weedon, Jr., '41, in the drive for money for the Independent Residence Development Fund.

In a document entitled "The Institute and Its Fraternities—A Progress Report," issued in March, 1962, which is basic to these latest developments, President Stratton observed that "with twenty-eight fraternities, the co-operative M.I.T. Student House, and four [now five] undergraduate residential centers each with its own individuality, we are rather unusually well prepared to meet the needs of a student body diverse in background, versatile in aptitude, and dynamic in spirit." The best assurance that 1975's students will find things still good, if indeed not even better, is implicit in the two sets of decisions which we have been discussing, particularly when these are set in the context of the Institute's entire long-range planning for, among other things, a Graduate Center.

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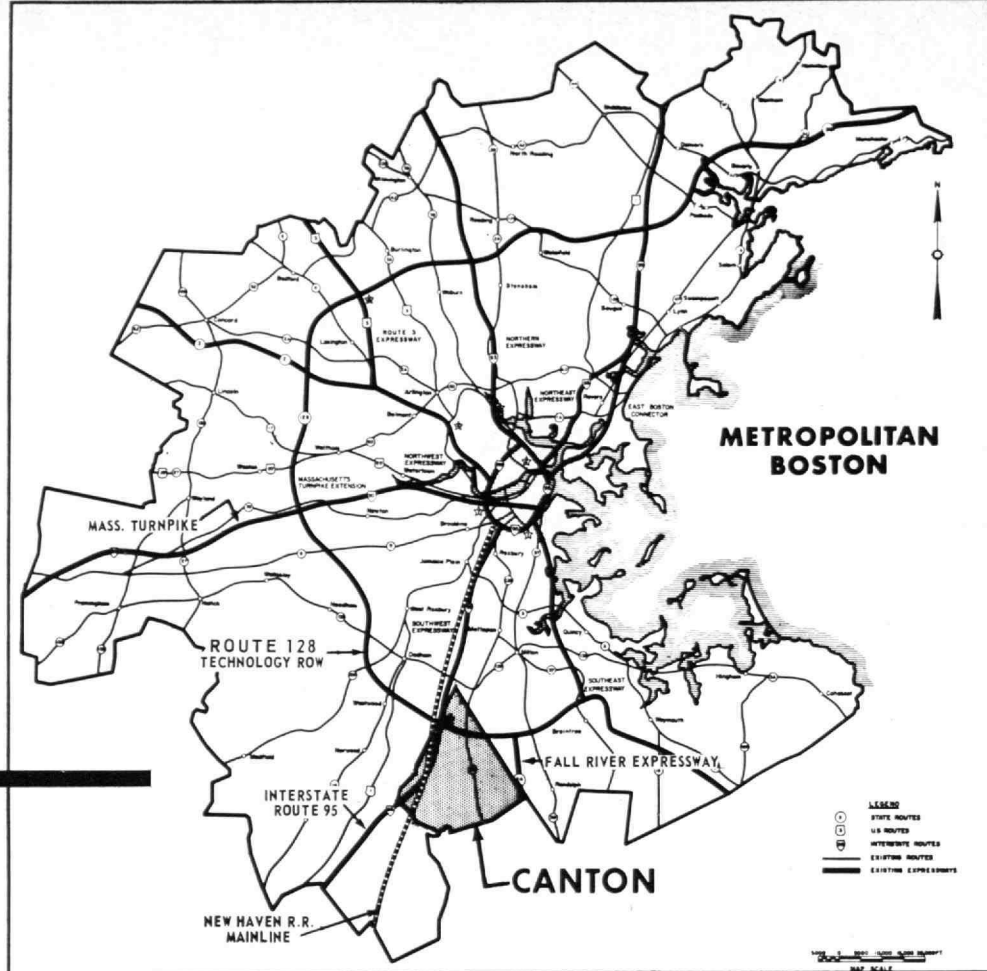
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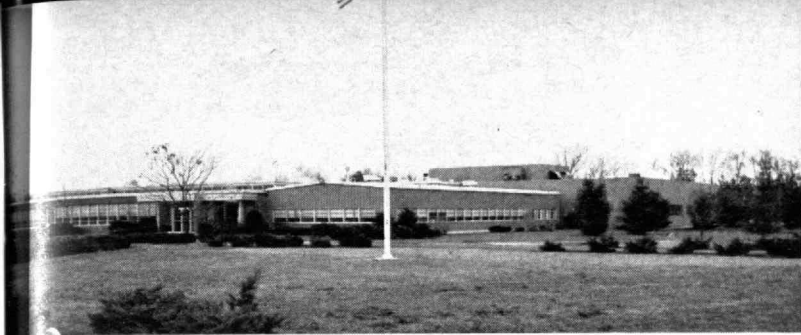
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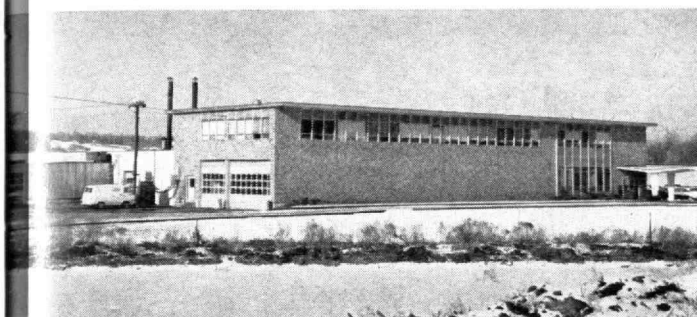
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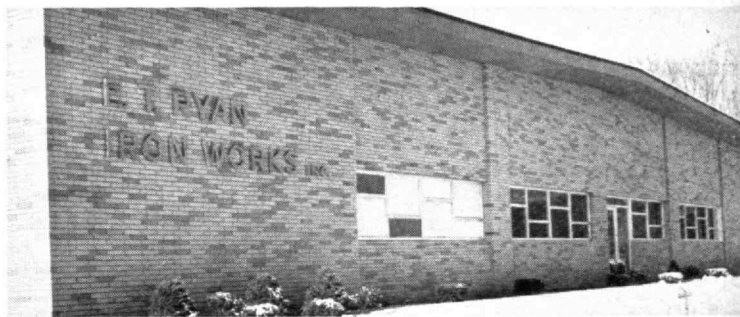
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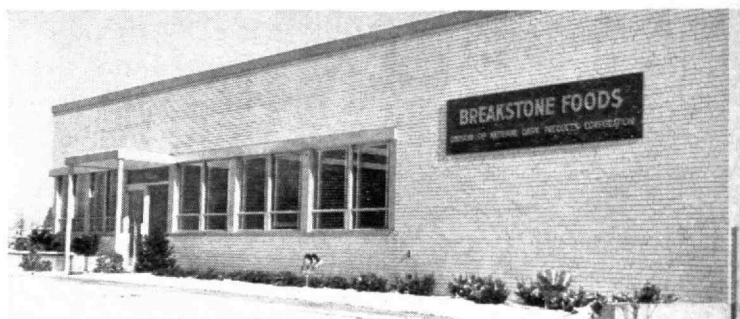
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Film Documents Life In Oceanauts' Village

A Report from Stan Klein, '58

IN HIS NEW FILM, *World Without Sun*, Captain Jacques-Yves Cousteau once again brings to our landlocked lives the eerie beauty hidden in the ocean depths. This Columbia Pictures documentary is a recounting of Cousteau's successful 1963 experiment in which he demonstrated that men could live on the continental shelf. (Cousteau believes that exploitation of the ocean's resources must remain a marginal activity unless we learn to live and work on the ocean floor over extended periods of time.)

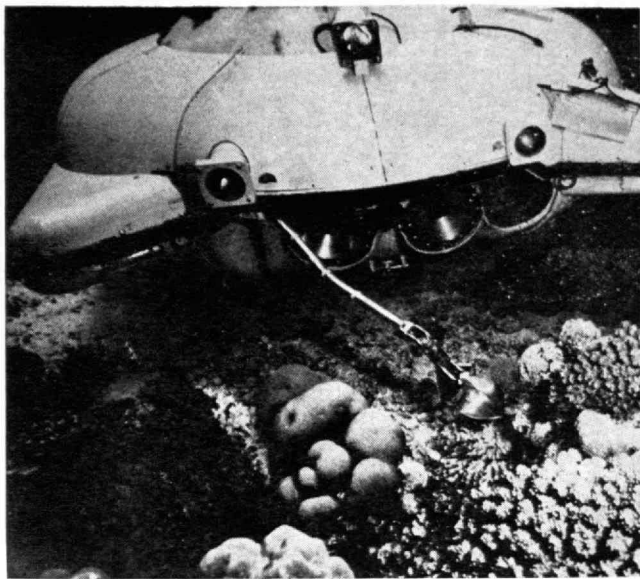
With the same exquisite color photography and sense of excitement that have already won him and the marine sciences world-wide popularity, Cousteau describes his underwater village and the adventures of the seven oceanauts who were its daring inhabitants. The village was located on a coral reef in the Red Sea about 50 miles from Port Soudan. Its principal structure, referred to as the Big House, was located 36 feet down on a ledge of the reef. Star-shaped, the house consisted of two bedrooms, a kitchen, a biological laboratory, and a shower and changing rooms for the divers. Closed-circuit television and telephone linked the submerged house to two nearby surface ships, which included Cousteau's famous oceanographic research vessel, the *Calypso*. Five oceanauts made this Big House their home for one month.

At a depth of 86 feet, Cousteau set up another cabin in which two oceanauts lived for one week.

Air, other supplies, and stand-by security were provided by the surface vessels. Air was pumped to the cabins at their ambient water pressures so that the oceanauts could enter and leave their homes without requiring decompression.

Garages were built to house several underwater scooters and Cousteau's two-man exploratory submarine, the Diving Saucer. Some of the camera equipment used, incidentally, was developed by Professor Harold E. Edgerton, '27, a close associate of Cousteau.

The film shows how the oceanauts lived and worked in the aqueous environment, including the tensions they were under. The men played chess, wrote, read books, cleaned house, and observed the pageantry of fish that passed by the windows. For about five hours each day or night, the oceanauts donned their SCUBA gear to work on the sea bed where they studied the fauna, collected rare specimens, conducted experiments, and



Exploring the ocean bottom in Cousteau's Diving Saucer.

installed fish tanks that were used to contain the live specimens.

Though Cousteau centers the film on the oceanauts, he does not forget to point out the technological base on which the expedition depended. In one scene the camera pans in on an oceanaut's strained face. He is peering nervously and suspiciously at an array of electronic equipment in the Big House. The narrator explains: "The oceanaut knows that his safety and life depend on this complex equipment." The tone is matter-of-fact, which enhances its dramatic impact.

We are shown the flaring tempers of fish when their attempts to feed on smaller prey are frustrated by the plastic bags in which the oceanauts have contained them. In a deliriously comic display, scallops that have been frightened by starfish activate their tiny jets and bounce frantically away, stirring up the mud floor.

A crustacean is shown cleaning the home it shares with another fish. In bulldozer fashion, it uses its claws to sweep away debris and then, switching from the role of domestic to that of engineer, it buttresses one stone against another to build a sturdy wall. Perhaps the ugliest of all sea life—the moray eel—is seen lurking in its dark tunnel; a fish passes nearby, the eel darts out, and returns to its hole to feast on the unlucky creature that dangles from its hellish jaws.

The film is misleading at one point. It leaves the impression that Cousteau and a colleague are about one thousand feet down in the Diving Saucer when they discover a pocket of fresh air at the end of a tunnel. This, of course, is not so. What happens is that in returning from a thousand-foot dive, they discover the tunnel when they are but 50 feet from the surface. They then trace the tunnel to its end, which is at sea level. Here, an overhanging rock formation is responsible for still water and an air pocket.

To the alert, this sequence provokes some skepticism. Otherwise, this is a wondrous film that portends man's imminent colonization of the world without sun.

New Books

WE ARE NOT ALONE: The Search for Intelligent Life on Other Worlds, by Walter Sullivan (McGraw-Hill Book Company, \$6.95).

Reviewed by Robert C. Cowen, '49.

WALTER SULLIVAN, the able and literate science editor of *The New York Times*, has written one of the most thought-provoking books currently in publishers' listings.

It is the biography of an idea, the outline of the evolution of man's belief that intelligent life exists elsewhere in the universe. There is no direct proof of this. Yet the reasons for believing such life exists are cogent enough for many experts to regard them as tantamount to certainty.

Mr. Sullivan presents all phases of that reasoning. He describes how astronomers have come to believe that our galaxy alone, the great Milky Way Galaxy, probably has millions of stars with one or more habitable planets. "Habitable," of course, means capable of bearing life to the extent that this capability can be judged from our admittedly limited knowledge.

Today this knowledge is reinforced with a deepening understanding of how organic life itself may arise from "dead" chemicals. It is beginning to look as though the rise of life, including intelligent life, is an inevitable and common part of the evolution of a planetary system. It is not the miracle it was once considered.

All of this is presented concisely and in a lively writing style as prelude to the question: Can we hope to make contact with intelligent beings elsewhere in the universe?

The laws of physics as known today discourage the hope of direct travel to another star. But radio is something else again. The belief is growing that other, highly developed civilizations may already be broadcasting across the celestial spaces. Mr. Sullivan describes this new outlook and the first attempt to detect such radio messages. This effort, called Project Ozma, was made at the National Radio Astronomy Observatory at Greenbank, W.Va.

In discussing such a broad subject, it is inevitable that some topics are treated in summary fashion. The work of some scientists is neglected while that of others no more prominent is presented at length. Minor errors of fact or explanation may also creep in. Experts in the fields covered could find fault with the book on this account, but that would be needless nit picking.

The grand vision this book presents sweeps such faults aside. It is an account of why serious scientists, not uninformed dreamers, take seriously the possibility

of life on other worlds. It is only secondarily an exposition of scientific principles or a review of research work. The book must be judged in terms of its main purpose. On this ground, it is a superb reporting job.

Presenting these developments as a coherent story, the book has impact even for one who may be following the field himself. It is a challenge to change one's outlook, to stop thinking in terms of mankind here versus "the others" somewhere out there.

Life may be a grand unity spread throughout the universe. It may be a cosmic community which individual civilizations on individual planets can join when they evolve to the point where they are technologically capable of doing so.

As Mr. Sullivan expresses it: "... life, in a sense, may be eternal. Perhaps true wisdom is a torch—one that we have not yet received, but that can be handed to us by a civilization late in its life and passed on to our own world as its time of extinction [through the death of its star] draws near. Thus, as our own children and grandchildren offer some continuity to our personal lives, so our communion with cosmic manifestations of life would join us with a far more magnificent form of continuity."

Mainly for Specialists

RECENTLY published books by M.I.T. men have included:

Disciplines and Techniques of Systems Control, edited by John Peschon with contributions by Henri B. Smets, '57, and Roy C. Amara, '48 (Blaisdell Publishing Company, \$12.50).

Electron-Stream Interaction with Plasmas, by Richard J. Briggs, '59, a staff member of the Lawrence Radiation Laboratory (Sherwood Division), Livermore, Calif. (The M.I.T. Press, \$7.50).

Optimal Estimation, Identification, and Control, by Robert C. K. Lee, '55, a staff engineer with Honeywell, Inc. (The M.I.T. Press, \$6).

Physics of Nuclear Kinetics, by G. Robert Keepin, '47, of the Los Alamos Scientific Laboratory, on leave to the International Atomic Energy Agency in Vienna (Addison-Wesley Publishing Company, Inc. (\$12.50).

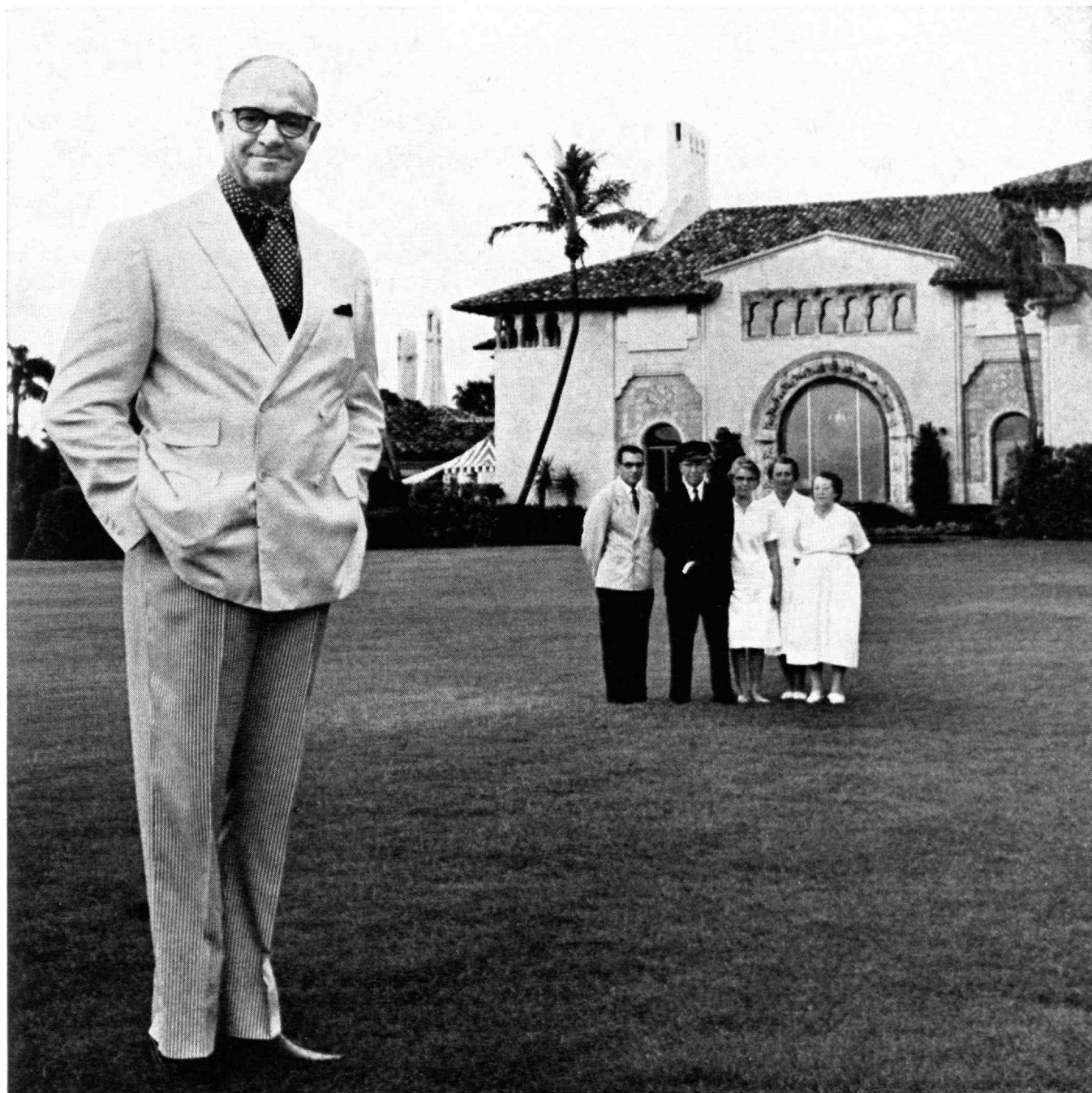
Regional Development and Planning, a reader edited by John Friedmann, Associate Professor of Regional Planning at M.I.T., and William Alonso, Associate Professor of the Harvard Graduate School of Design and Acting Director of the Center for Urban Studies at Harvard University (The M.I.T. Press, \$9.75).

Reliability of Shell Buckling Predictions, by William A. Litle, '57, Assistant Professor of Civil Engineering at M.I.T. (The M.I.T. Press, \$10).

Toolpusher's Manual (sixth edition, 1964), published by a subcommittee headed by Bernard E. Groenewold, '25, of the Rotary Drilling Committee of the American Association of Oilwell Drilling Contractors, 211 North Ervay Bldg., Dallas, Texas (from \$20 up, depending on case, binder, and other factors).

(Continued on page 36)

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New Books

(Continued from page 34)

THE ETERNAL PRESENT: A Contribution on Constancy and Change, Volume II, The Beginnings of Architecture by Sigfried Giedion (*Pantheon: Bollingen Series XXV, 6.II, \$12.50*).

Reviewed by **Stanford O. Anderson**, *Assistant Professor of the History of Architecture at M.I.T.*

THIS ENGAGING study of the architecture of ancient Mesopotamia and Egypt is not intended to encourage imitation of past genius and "not so much to record the facts as to strengthen belief in the power of the human imagination." In this statement, Professor Giedion suggests man's eternal existence in a present that is distinct from past and future—thus emphasizing change.

The ambiguity of past and present, of constancy and change, are themes which will insinuate themselves into any history that deals with ancient works that are also present to us. However, a more enigmatic "eternal present," one that emphasizes constancy, is central to Giedion's work. He sees the desire to attain contact with invisible powers—contact devoid of any intermediaries—as the great achievement of the creative imagination revealed in the "earliest beginning of architecture," which are the interior spaces of the Mesopotamian temples before 3000 B.C. For the Egyptians, as for prehistory, the world was "filled with symbols in which

reality and the hereafter, sacred and profane, were inextricably intertwined." To put it in a conundrum: The present is eternal, and eternity is present. Death was only a bridge leading from one real existence to another. As this belief in the "unending continuance of existence" elicited the handicraft of mummification, so it also educed the first stone architecture in satisfaction of the need for an eternal dwelling. "Symbolic ritual begets technical construction, and not contrariwise." The emergence of the "architectonic spirit" is impressively demonstrated, according to Giedion, in Zoser's stepped pyramid.

To discuss the many topics within the broad scope of his lectures, Professor Giedion, himself not an archeologist, has found it necessary to draw upon many secondary sources. This he does with great skill and a minimum of scholarly paraphernalia. Nevertheless, the attempted synthesis raises many questions even for the nonspecialist. One instance would be the question as to whether the author has done justice to neolithic buildings, especially those of Çatal Hüyük in Anatolia. Such questions cannot be pursued in a short review. One must, however, comment on some very general attitudes which underlie Professor Giedion's work.

Implicit and explicit in the book are a number of Germanic historiographical concepts which have influenced traditional interpretations of ancient civilizations—destiny, *Kunstwollen* (artistic volition), *Weltan-*

(Concluded on page 38)

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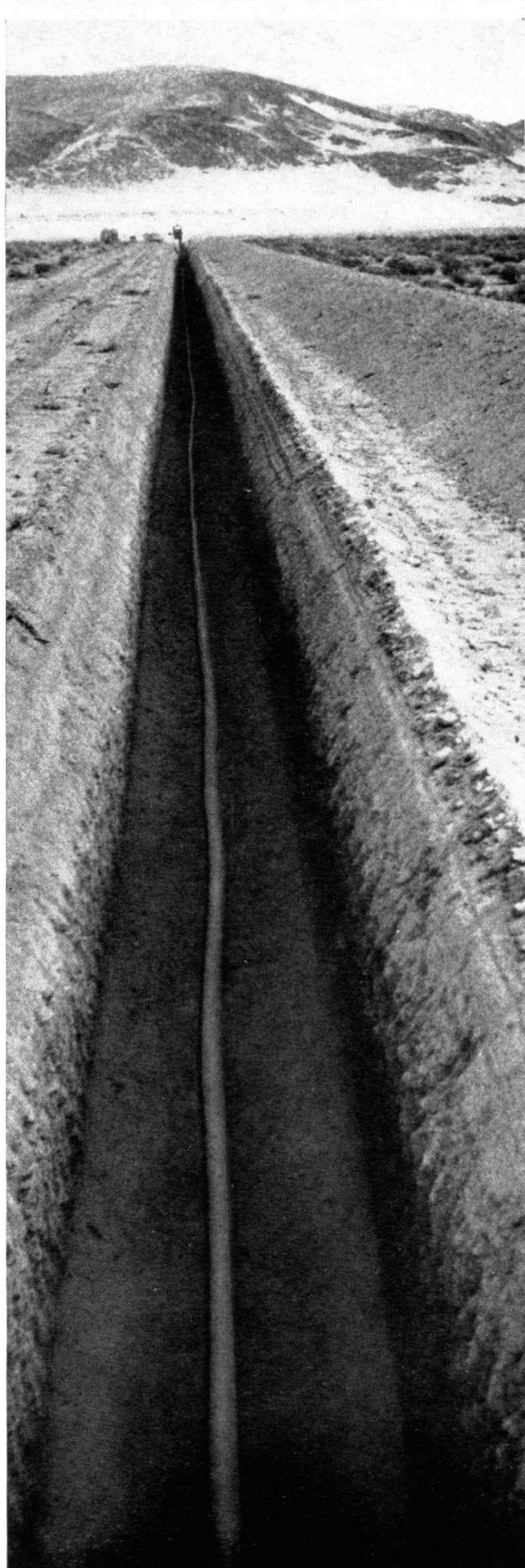
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New Books

(Concluded from page 36)

schauung (world-view). "Destiny" is an especially prominent theme. "Some regions seem condemned to follow a certain course from start to finish." Of the buried city of Babylon, he says: "It is impossible to evade the disturbing reflection that this was the first time that an ever-recurring fate caused an overlarge city to sink into utter oblivion." Even in the earliest stages of the Sumerian civilization, "the way in which the felicitous invention of the cylinder seal was plastically developed was deeply rooted in the Sumerian *Kunstwollen*."

It may be the unquestioning acceptance of these concepts that has led to the banal conclusion of the book—the listing of three architectural space conceptions: volumes in limitless space, of Egypt and Greece; hollowed-out interior space, from the Pantheon to the end of the Eighteenth Century; and integration of these conceptions in modern times. This conclusion is hardly implicit in the material under discussion. Problems arise even in the earliest architecture. The articulated interiors of the Mesopotamian temples force Giedion to ask, "How could this anticipation of later development come about at the beginning of architecture?" It may be the assumed concept of a linear development motivated by destiny and artistic will that makes these early innovations problematic rather than enlightening.

Rather than accepting these historiographical concepts unquestioningly, it would have been more welcome to have seen them tested against the voluminous archaeological material that Professor Giedion has surveyed.

These reservations concern explicit attitudes, but not the topics specifically discussed by Professor Giedion. One central theme is of special interest. In speaking of the beginning of architecture in Mesopotamia, Giedion asserts that "the basis and background for both [pottery and architecture] embraced a common conception: abstraction and symbolism." Concerning ziggurats (the temple towers), Giedion says, "Characteristically it was not the satisfaction of purely material needs but the desire for a symbolic realization of the link between god and man that gave rise to this new and expressive architectonic form."

This rejection of materialistic explanations for the origin of architectonic forms, while not new, is here categorically stated with reference to the early civilizations. Giedion has presented his argument well.

As is usual in the Bollingen series, *The Eternal Present* is handsome and easy to use.

An Irish Issue Long Ago

EMMET J. LARKIN, Assistant Professor of History at M.I.T. has contributed a chapter to *The Celtic Cross: Studies in Irish Culture and Literature* (published by the Purdue University Press) on "The Quarrel among the Roman Catholic Hierarchy over the National System of Education in Ireland, 1838-1841."



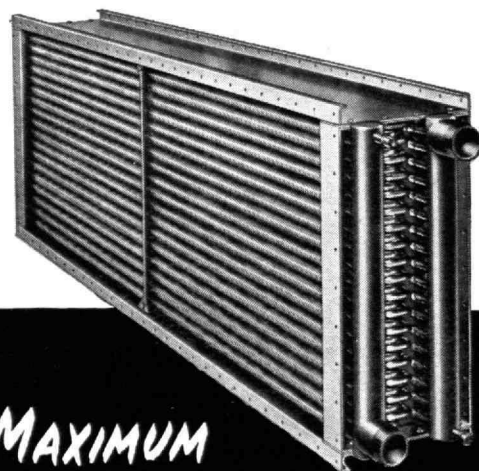
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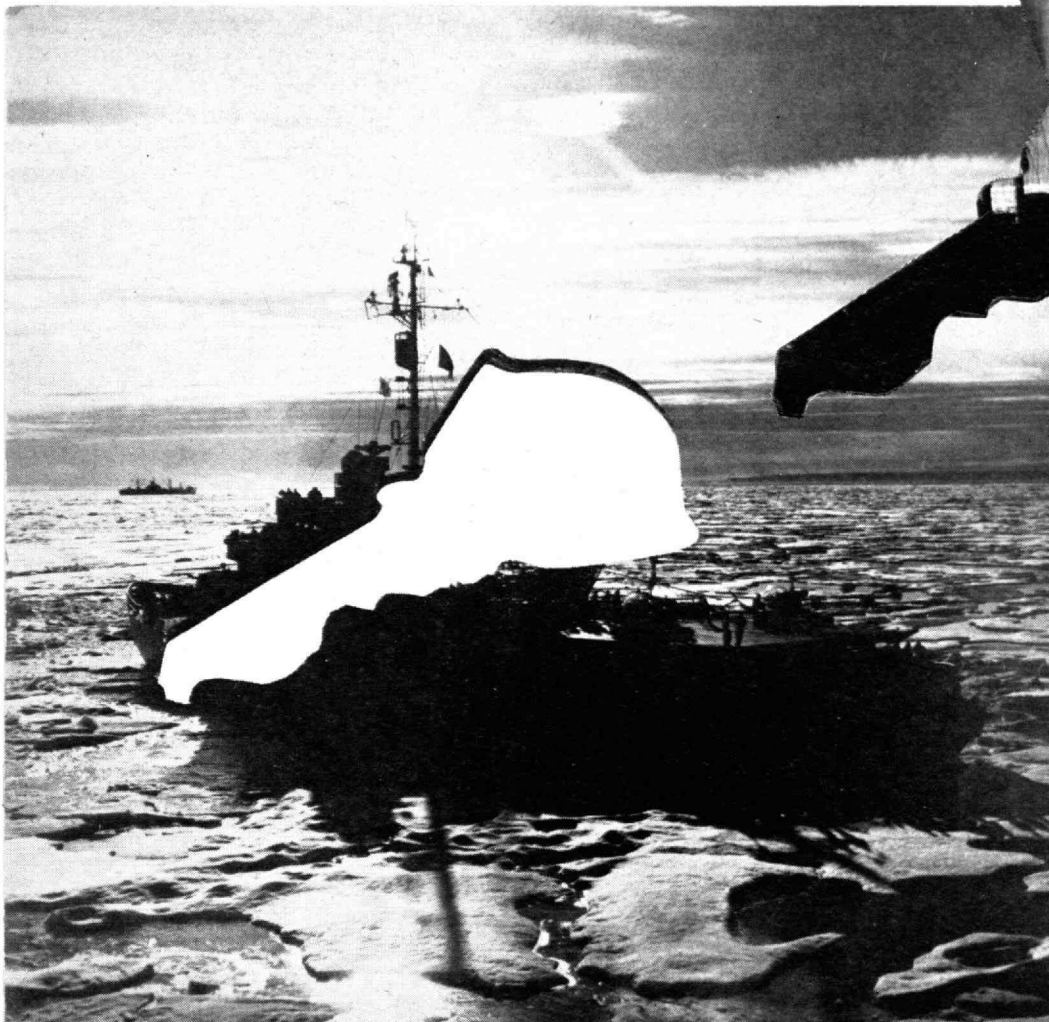
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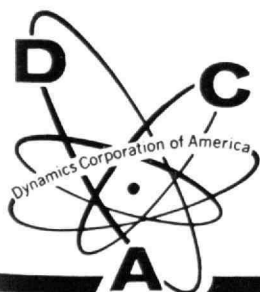
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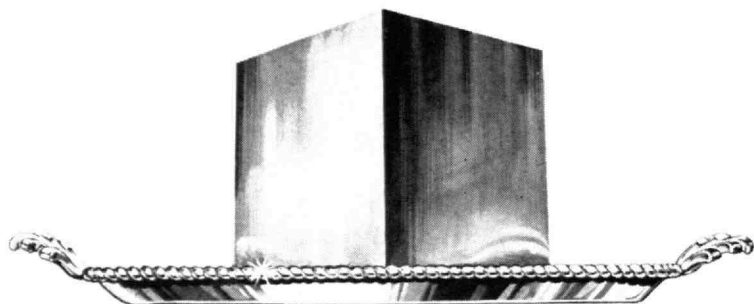
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Alumni Nominees

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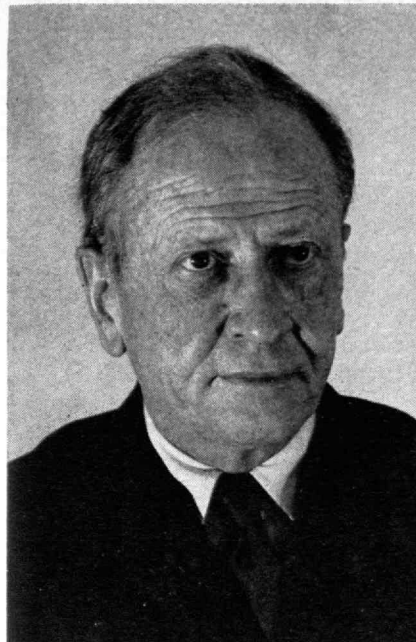
Mr. Groves is president, director, and chairman of United-Carr Incorporated and lives in Wellesley Hills, Mass. He is also a director of the First National Bank of Boston, the Liberty Mutual Insurance Company, and the Boston Manufacturers Mutual Insurance Company. He is now a term member of the M.I.T. Corporation, was the Alumni Association's vice-president in 1963-1964, and has served the Institute and its Alumni in numerous other capacities. He is also a trustee of Northeastern University and Fessenden School.

Mr. Smith is president and general manager of the Eastman Gelatine Corporation, a subsidiary of Eastman Kodak Company, in Peabody, Mass. He is a director of the World Affairs Council in Boston, president of the board of trustees of Peabody Hospital, a director of the Salzburg Seminar in American Studies and the Robert Breck Brigham Hospital, and a trustee of the Warren Five Cents Savings Bank in Peabody. Mr. Smith was national vice-chairman of the Second Century Fund Area Organization, and has been an active leader in the work of the Alumni Fund and the Association for many years.

All three of the nominees for membership on the M.I.T. Corporation are eminent business executives. Mr. Perlman is president of the New York Central System, Mr. Brewster is president of the United Shoe Machinery Corporation, and Mr. Clewell is senior vice-president of Socony Mobil Oil Company, Inc.

Mr. Perlman is also chairman of the American Heritage Foundation and the Eastern Railroad Presidents' Conference, a director of numerous companies, and has served on two M.I.T. Visiting Committees. He has been a consultant to Israel and Korean railroads, is a trustee of Denver University, and has honorary degrees from De Pauw University and Clarkson College.

Mr. Brewster is a director of the First National Bank of Boston, the Liberty Mutual Insurance Company, and other insurance companies and banks. He is a trustee of the Boston Museum of Science, on the governing board of Plimoth Plantation,



Gregory Smith, '30
Vice-presidential Nominee

Inc., and a director of the Greater Boston Chamber of Commerce. He is currently a member of the Visiting Committee for the Department of Mechanical Engineering.

Mr. Clewell, a former president of the M.I.T. Club of Dallas and now a Fellow of the M.I.T. Alumni Center of New York, was a physicist and director of field research laboratories before assuming his present position in New York. He is the author of several papers on experimental physics, geophysics, and petroleum research, and is a Fellow of the Institute of Electrical and Electronic Engineers. He received both his S.B. and Ph.D. degrees at M.I.T.

The two nominees for membership on the Alumni Association's Executive Committee both have long been active in alumni work. Mr. Essley is a technical associate of the Eastman Kodak Company in Rochester, and Mr. Hurter is vice-president and general manager of the Aircraft Division, Standard-Thomson Corporation, in Waltham, Mass.

To fill three vacancies on the National Nominating Committee, the following have been proposed: *District 8*, Richard T. Lyons, '17, Jonathan Y. Ballard, '23, and William F. Spreen, Jr., '34; *District 9*, Gerry E. Morse, '30, J. Warren Evans, '39, and Frederic C. Alexander, Jr., '32; and *District 10*, James W. Barton, '39, and Paul Gerhardt, '49.

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c. 320 pp, 128 illus (1965) About \$12.75

• PUBLISHED JANUARY 1965 •

COMBUSTION THEORY

By FORMAN A. WILLIAMS, *Institute for Defense Analyses*

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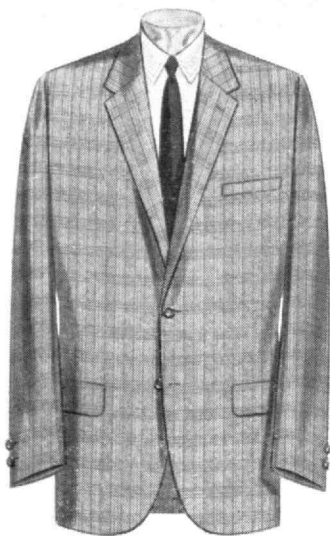
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Bridges to America's Past

(Concluded from page 19)

have long since been replaced with modern structures. The longest bridge now standing in the United States is but 468 feet long, built in 1866 over the Connecticut River at Windsor, Vt. Canada, however, has a 1,282-foot bridge in Hartland, N.B. Pennsylvania's longest bridge spans the Conestoga River near Lancaster, and is 349 feet long. The oldest bridge standing in the United States was built in 1812. It is near Lewisburg, Pa., and has a Burr truss 100 feet long erected by a local carpenter. It was rebuilt in 1867 and has since been well maintained.

Multi-Purpose Structures

Today the larger bridges have served their purpose and have been replaced. There still remain many smaller bridges that in their way have been important to the communities in which they were located. Children used them as gathering spots for play. On the grimmer side, they served as rendezvous for thieves and bandits. Travelers and farmers found them a welcome shelter in a heavy storm. They were also known as "kissing bridges" where many a courtship was fostered, notwithstanding the jibes from youngsters hidden in the roof above. Bridges served for public functions, such as revival meetings, political rallies, and in some cases even for weddings. They also sheltered mailboxes and billboards for town events. The inside walls of some are still covered with carvings and initials, wisecracks, and religious mottoes, as well as advertisements for local stores and patent medicines for man and beast, painted on the sides or trusses, and often still legible.

I have found bridge hunting and the study of the construction of their trusses a most fascinating hobby. In five years I have visited 70 per cent of the existing bridges. Almost all of those that remain are in or near small communities and on roads where the traffic is so light that there is no urge for changes that would jeopardize the life of a bridge. The settings are interesting and picturesque. There is an urge to stop and enjoy the surroundings, to recall the past. The fast modern highways are far away and there is time and quiet in which to relax.

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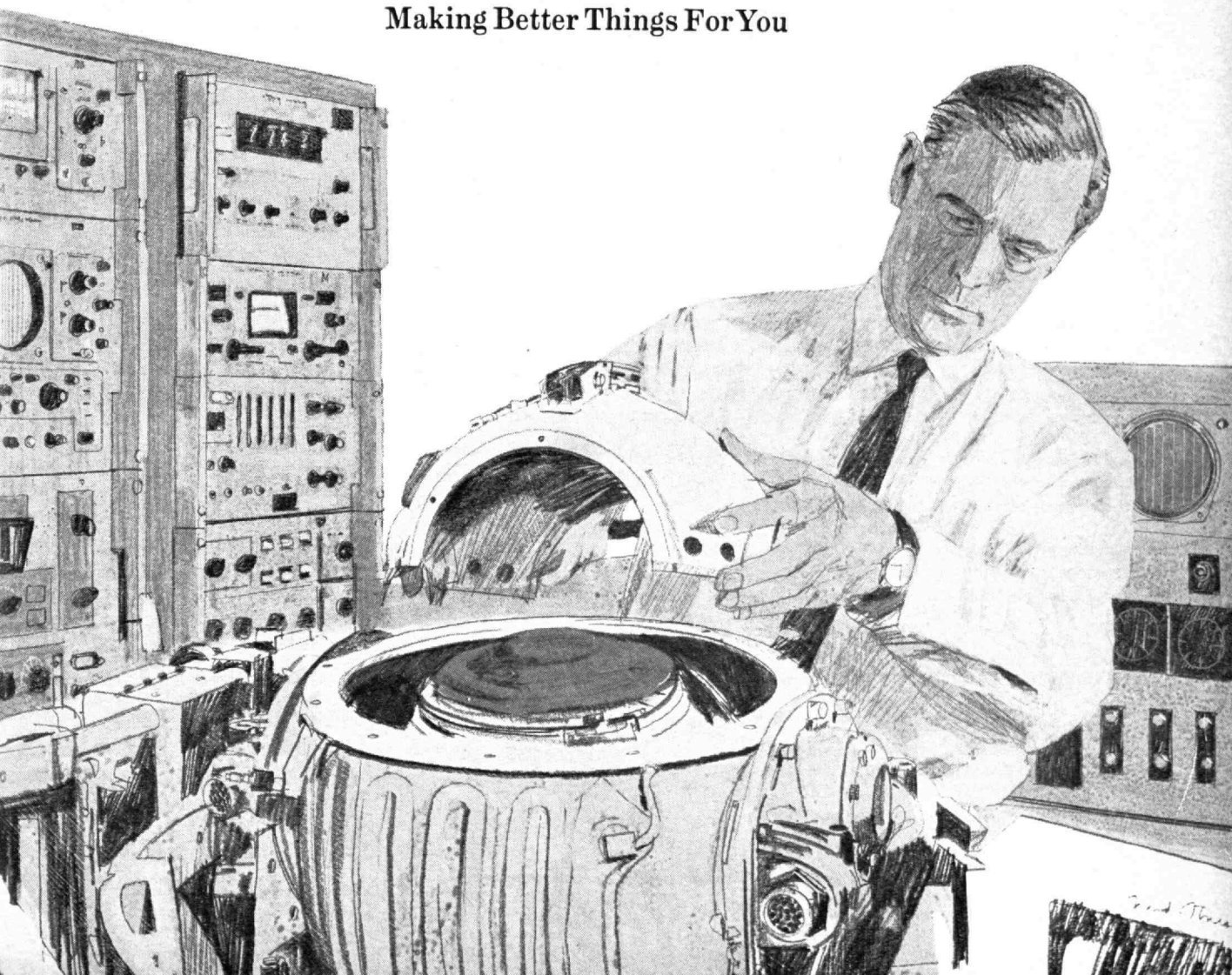
Together with several hundred other engineers, scientists and technicians, he is contributing to the development, fabrication, assembly, integration and testing of the guidance and navigation system for the Apollo spacecraft. His mind is literally on the moon—and how to get three men there and back safely.

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Origins of Our Universe

(Continued from page 17)

Each ring gradually concentrated into a gaseous globe, and most of these globes developed satellites as they contracted into planets. The globe at the center, still containing most of the original material, became the sun of our solar system.

Another theory suggests that at some early time in our sun's life, another star swept closely by it. According to this idea, the gravitational force of this star pulled great masses of the sun's matter out of its body, and these formed a sort of spiral nebula which revolved around the sun. This nebulous material gradually coalesced into our present planetary system.

Recent astronomical observations indicate that all of the many solar systems in the universe are moving farther and farther away from each other—that is, that the universe is expanding. These observations have given a new impetus to cosmogonic speculation and have given rise to a number of interesting hypotheses.

It was the curious idea of the French astrophysicist Abbé Lemaitre that the universe originated from a single, stupendous, primeval atom which exploded, thus bringing about the expansion which we still perceive.

George Gamow, of Colorado University, has propounded the analogous theory that:

"... in the beginning the nucleus of the universe was an inferno of homogeneous primordial vapor boiling at unimaginable temperature. (The temperature of the sun ranges from 5,500 degrees C. at the surface up to 40,000,000 degrees in the interior.) There were no elements in such heat, no molecules, no atoms—nothing but free protons, electrons, and neutrons in a state of chaotic agitation. When the cosmic mass began to expand, the temperature began to fall. Then the atoms and protons condensed into aggregates—electrons were emitted which attached themselves to nuclei, and atoms were formed. All the elements in the universe were thus created within the space of a short time."

R. C. Tolman put forth the disheartening idea that the expansion of the cosmos may be merely temporary, to be followed in due time

(Continued on page 46)

Why I decided to go "back to work" at 35



Charles "Bud" Hoffman (left), the largest Chevrolet dealer in Western Maryland, discusses his new insurance program with New England Life representative Elmer Wingate.

Back in May of 1963 Elmer Wingate decided to change jobs. He was 35, and the idea of a career in life insurance appealed to him since he wanted to go into business for himself. "After teaching sales and being in sales management, I asked myself if I really wanted to go back to work," Elmer says, "back to the 'nuts and bolts' of face-to-face selling. But I knew that life insurance was a business with unlimited potential, where a man's income directly reflects his ability."

Roger Antaya, a New England Life general agent in Baltimore, was impressed with Elmer's initiative and his background. He hired Elmer and together they worked out an on-the-job training program. In just 14 months Elmer had sold \$1,200,000 worth of life insurance.

Elmer likes being in business for himself. He's living

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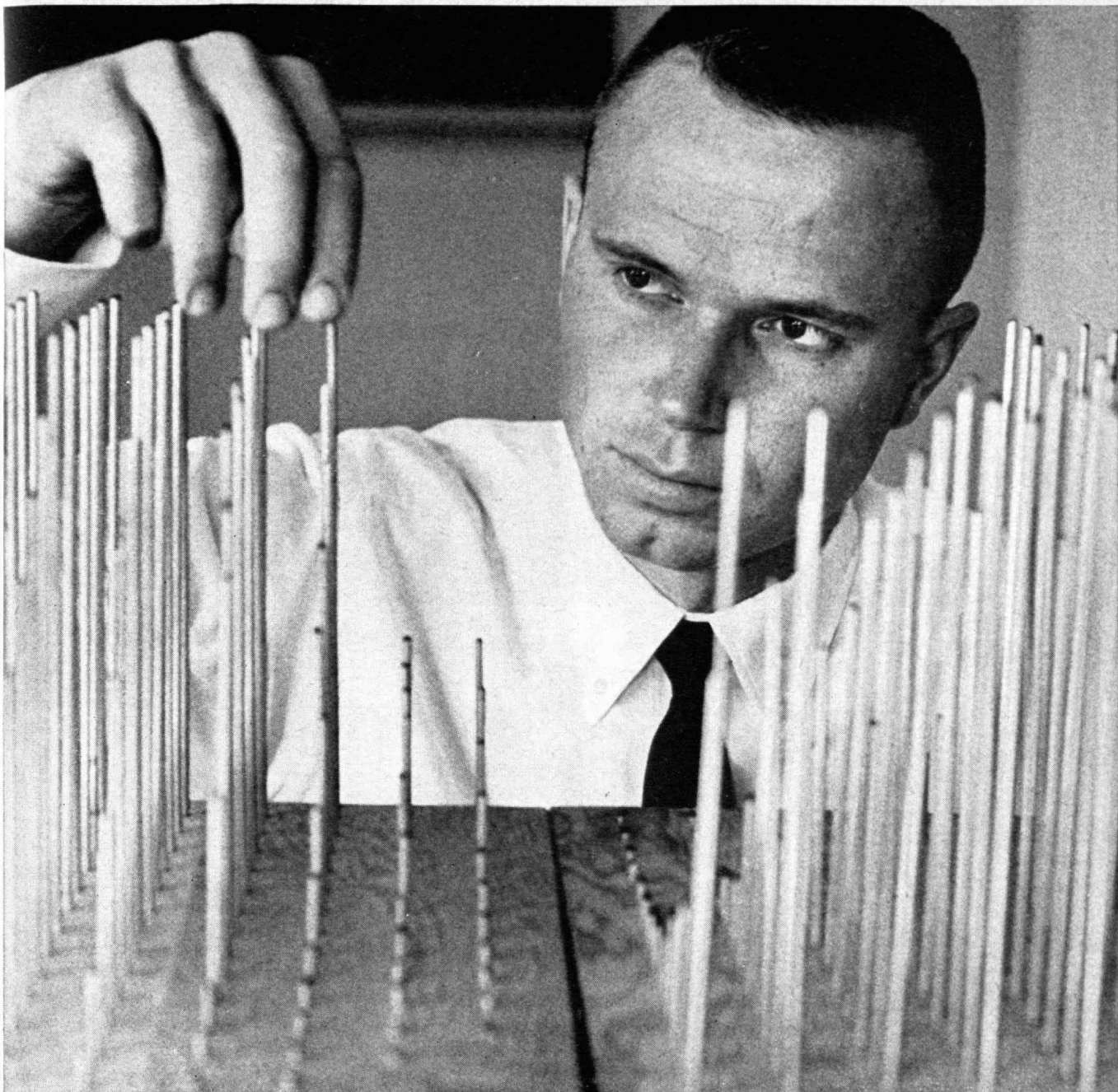
Origins of Our Universe

(Continued from page 44)

by a period of contraction. There is thus the impression of a universe which is breathing; in which cycles of expansion and contraction succeed each other through all time. These cycles result from changes in the amount of matter in the universe. This view would be in accord with that of Einstein, who maintained that the curvature of the universe depends upon its content. However, Tolman's theory depends on the questionable hypothesis that somewhere in the universe new matter comes into being. It may be this problem which leads him to theorize that although the amount of matter in the universe is continually changing, the change is in one direction—towards extinction. The sun is slowly but surely burning out. Stars are dying embers, and everywhere in the universe heat is spending itself, matter is dissolving, and radiation and energy are being dissipated into empty space. At the end of this burning down, billions of years into the future, all the processes of nature will cease. All space will be the same temperature. No energy will be exerted since it will all be uniformly distributed through space. There will be no light, life, or warmth; only perpetual and irrevocable stagnation.

Other theorists advocate what is called "the unwinding theory." They say that somehow, somewhere beyond man's meager ken, the universe may be rebuilding itself. In the light of Einstein's principle of the equivalence of mass and energy, it is possible to imagine the diffused radiation in space congealing once more into particles of matter—protons, neutrons, and electrons—which may then combine to form larger units, which in turn may be collected by their own gravitational influence into diffuse nebulae, stars and, ultimately, galactic systems. And thus the life cycle of the universe may be repeated for all eternity. Protons of high-energy radiation such as gamma rays can interact with matter to produce pairs of electrons and protons. Astronomers determined recently that atoms of higher elements drifting in space—hydrogen, helium, oxygen, nitrogen, and carbon—may slowly coalesce into molecules and microscopic par-

(Concluded on page 48)



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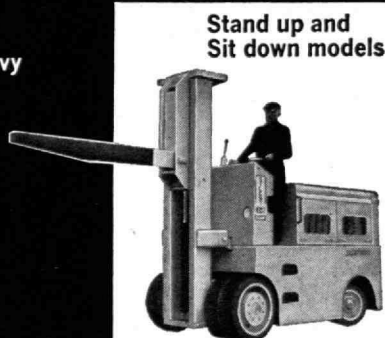
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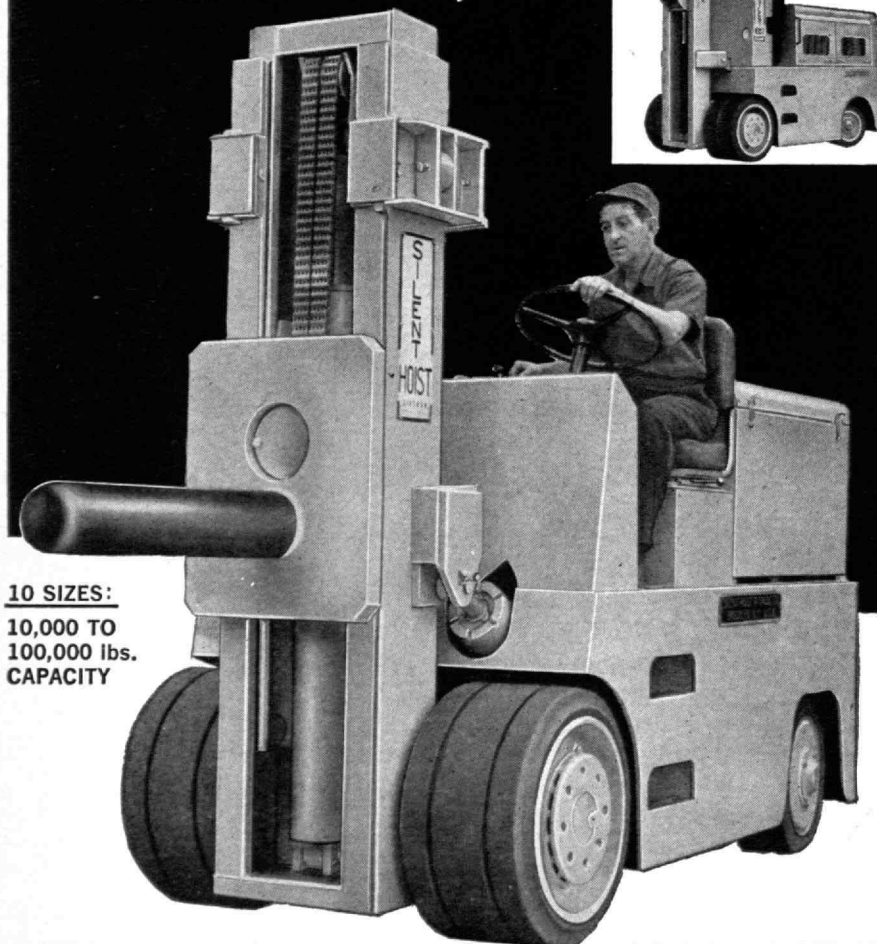
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Origins of Our Universe

(Concluded from page 46)

ticles of dust and gas, and thus all would be as it was at the beginning.

Fred L. Whipple of Harvard has described in his *Dust Cloud Hypothesis*, published in 1958, how the rarefied cosmic dust that floats in interstellar space, in quantities equal in mass to all the visible matter in the universe, could in the course of a billion years condense and coagulate into stars.

These tiny dust particles are blown together by the delicate pressure of starlight. As the particles cohere, an aggregate is formed, then a cloudlet, and then a cloud. When the cloud attains gigantic proportions, its mass and density will be sufficient to set a new sequence of physical processes into operation. Gravity will cause the cloud to contract, and its contraction will cause its internal pressure and temperature to rise. Eventually, in the last white-hot stages of its collapse, it will begin to radiate as a star. Our solar system might have evolved, in special circumstances, from such a process, our sun being the star in question and the various planets small, cold by-products condensed from subsidiary cloudlets spiraling within the main cloud.

The consideration of these various cosmogonic theories propounded by outstanding scientific thinkers gives us a good idea of what science has been able to suggest in response to this most enigmatic and difficult of questions: how did the universe begin? Most of the clues, discovered at the very frontiers of scientific cognition, indicate that there was a definite time of creation. Somehow and sometime, the cosmic processes were started, the stellar fires ignited, and the whole vast pageant of the universe brought into being.

After reading all of the above theories and concepts about matter in the universe, we can say that they are not in conflict with what we read in the book of Genesis. The story of creation in Genesis was not intended to satisfy human curiosity by explaining in detail the origin of life in our universe. If it had been written in full detail, our minds would have been so occupied with such an interesting story that we would have missed its all-important spiritual message.



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Feedback

Supersonic Fallacy?

FROM HOMER D. SCHAAF, '61:

THE ARGUMENT for the supersonic transport presented by Messrs. Browne and Harding in your January issue is flawed at its core.

To quote from their "Conclusions": "Neither the traveling public nor the airlines are in a hurry for

SST's. The competition is to maintain our world leadership in the manufacture of transport aircraft."

It is the worst kind of leadership to lead in the manufacture of fabulously expensive machines which no one wants.

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A Feeling of Responsibility

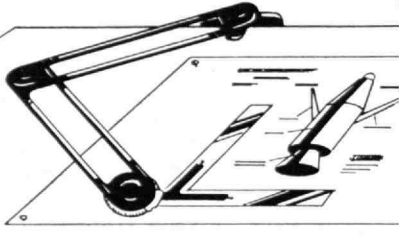
FROM CHAS. E. BROKAW, '22:

THE FIRST reading of "A Decisive Decade (Jan., 1965) gave me a thrill

to realize that I counted as an erg in that tremendous force known as M.I.T. The second reading gave me a greater feeling of responsibility to meet the challenge of the next decade, not only for my three youngsters but for the Educational Council and for M.I.T. and its continued contribution to society. I am now phoning all our Educational Council members here urging them to read this statement. . . . The Review has done much for me. . . . I have quoted from many of its articles. . . .

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Trend of Affairs

(Continued from page 26)

The Apollo Manager's View

NO TECHNOLOGICAL breakthroughs are needed to land a man on the moon, Joseph F. Shea, '46, Apollo Program Manager, wrote this winter in the *Grumman Horizons* magazine. Nevertheless it is "the most challenging technical program ever undertaken by this country" because of "the total number of systems which must be brought to a mature development status at the same time, and the reliability which must be achieved by each system to provide adequate safety for our human cargo." The difficulty is really "the problem of assuring that all responsible elements within the program understand what their jobs are, and that these many, many tasks are executed with competence and integrity."

The lunar landing is not an end in itself, Dr. Shea continued. "It does, however, provide an essential focus to the development of our national capability to operate in space—to obtain the skills we might some day need for defense—without prejudging the military uses of space and perverting, perhaps unnecessarily, the one environment in which men do not carry arms against each other. . . .

"The range of possible uses of space is really the listing

of the things we can think of now. There is tremendous potential for science, for the civilian economy, and for defense—which actually will prove important. What new uses will arise, we are not smart enough to predict. . . ."

Although scheduling has become in effect a tool, Dr. Shea still believes "the most probable date" for achieving the goal is late in this decade.

Communist China Examined

MORE THAN 300 persons attended the M.I.T. Alumni Center of New York's session the evening of January 12 to hear recent developments in Communist China traced, China's differences with Russia, India, and the United States reviewed, and the danger of proliferation of nuclear weapons described by a quartet of eminent authorities.

The speakers were William C. Foster, '18, Director of the United States Arms Control and Disarmament Agency since 1961; Max F. Millikan, Director of the M.I.T. Center for International Studies; Lucian W. Pye, Professor of Political Science who recently returned from Hong Kong, and William E. Griffith, a lecturer at M.I.T. and author of *The Sino-Soviet Rift*, a book reviewed last month in *Technology Review*. Gordon K. Lister, '30, was chairman for the evening.

(Concluded on page 55)

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Trend of Affairs

(Concluded from page 52)

Management Education in India

THE EXPANSION of industry in India since its independence has aroused lively interest in techniques of industrial management there, says Associate Dean John M. Wynne, '56, of the Alfred P. Sloan School of Management. Mr. Wynne returned recently after 16 months in Calcutta as M.I.T.'s senior representative at the Indian Institute of Management, a graduate school established by the government in collaboration with the Ford Foundation and M.I.T. in 1961.

The 1964 academic year marked the beginning of this institute's regular two-year graduate course; 50 graduate students have been enrolled and 80 are expected to enter this year. The institute will continue to expand for the next seven or eight years to capacity enrollment of about 600 regular students and 150 executive students.

Mr. Wynne helped begin a program for junior executives at the Indian Institute similar to the Sloan Fellowship Program at M.I.T. It offers concentrated study at the graduate level to young men with several years of management experience who are nominated for admission by their employers.

Professor Warren G. Bennis, '55, is succeeding Mr. Wynne as M.I.T.'s senior representative. More than a dozen members of the Sloan program have taken part in the programs there. As the Indian faculty grows, however, the M.I.T. Faculty's involvement is expected to diminish.

Science and Foreign Affairs

THE FOREIGN SERVICE Institute of the State Department conducted an experimental seminar on science, technology and foreign affairs January 11 to February 5 with M.I.T. assistance. Chairman James R. Killian, Jr., '26, of the Corporation, gave the opening talk, and Professor Carroll L. Wilson, '32, of the Alfred P. Sloan School of Management, and Eugene B. Skolnikoff, '49, of the Political Science Section of the Department of Economics and Social Science, participated in both the planning and the lecturing.

The participants were selected foreign service officers and other government officials, and the seminar was intended to increase their (1) appreciation of the character of scientific and technological aspects of many central issues of foreign policy, (2) awareness of opportunities offered by science and technology, (3) ability to obtain technical advice in formulating policies, and (4) familiarity with and understanding of science and scientists.

Professor Wilson is chairman of the Committee on Scientific Research of the Organization for Economic Cooperation and Development and a member of the United Nations Advisory Committee on the Application of Science and Technology to Development. Mr. Skolnikoff worked under both Dr. Killian and Dean Jerome B. Wiesner at the White House before returning to Cambridge to teach and engage in research. He is now a consultant to the Agency for International Development and the State Department, and a member of a panel of the President's Science Advisory Committee.

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Institute Yesteryears

As recalled by the late H. E. Lobdell, '17



25 Years Ago

ON MARCH 5, 1940, at the Hotel Waldorf-Astoria in New York, some "700 alumni, members of the Corporation, and guests assembled" to honor *Karl T. Compton* upon the occasion of his 10th anniversary as President of the Institute. The toastmaster was *C. George Dandrow*, '22, who presented as his four speakers: *Alfred T. Glassett*, '20, President of the M.I.T. Club of New York; *Frank B. Jewett*, '03, the 46th President of the Alumni Association; *Vannevar Bush*, '16, President of the Carnegie Institution of Washington; and *Eric Hodgins*, '22, Publisher of *Fortune*.

In speaking of Dr. Compton's achievements "in general," Mr. Hodgins commented as follows upon the decade being signalized: "What a wonderful decade for the Institute, what a melancholy decade for the country as a whole or the world at large. The national and international news in the papers that day [March 13, 1930, when news of Dr. Compton's acceptance of the Presidency of the Institute was made public] was mostly bad or stale or unhappy, and clear as could be there was foreshadowed in the business figures the dreary years that lay ahead.

"What has this got to do with Dr. Compton's achievements 'in general'? I think it had a very great deal to do with them. I think the first thing we should remember about these accomplishments is that they took place not against a national backdrop of prosperity, patriotism, courage, or joy of living; instead they were achieved while the very spirit of the time was on its way to sorrier and sorrier morasses of misunderstanding, confusion, defeat, and despair. Even more, however, the contrast between the decade that the world was about to endure and the decade that the Institute was so happily to experience suggests that whereas the Institute had a leader who knew where the answer to our modern problem lay, the

country had leaders who did not. 'Only the game fish swims upstream,' wrote Grantland Rice in a poetical mood a year ago. Throughout the whole of the Threadbare Thirties, as I have heard a well-known magazine describe them, Dr. Compton swam upstream. . . ."

To these benign assaults upon his modesty, Dr. Compton replied, taking cover behind the doctrine that he had served merely as a catalyzer in promoting the activities of the Institute.

50 Years Ago

"IF WE TAKE a long view of the prospects of the Institute, it will, I think, appear that those prospects are extremely bright," wrote President *Richard C. Maclaurin*. "Its apparent difficulties are not in the distance but within the next few years. These difficulties, as has so often been the case in its history, are mainly financial, and it will need not only the general good-will of the community but the active co-operation of all friends of the Institute to overcome these difficulties successfully. . . ."

"When the Institute establishes itself in Cambridge, there will be a community of nearly 2,500 students, instructors and working staff within its walls. It will be highly inconvenient for most of these people if they cannot get at least a mid-day meal on or near the premises. One of the urgent needs will be to provide suitable Commons for this purpose.

"The advantage of having some center of social life amongst the students has been recognized for long and some provision has been made for such a center in the Walker Memorial. A considerable amount of money has been subscribed in past years for this purpose, but the total is not yet sufficient to erect and equip a building large enough to meet the needs and worthy of the great President whose services to the Institute it seeks to commemorate.

"A large portion of the tract fronting on the Charles River has been set aside as a site for dormitories, the lack of which is one of the most serious defects of the Institute. The site is an admirable one for the purpose—few who have not actually visited it appreciate how beautiful is its outlook—and there is a splendid opportunity of improving the Charles River Basin by erecting a suitable group of buildings along the waterfront. This should appeal to the public spirit of citizens in Boston and Cambridge, but as yet no money for the purpose is available."

75 Years Ago

THE LOUNGER in *The Tech* took for his column's subject the offer of \$5 by the editors of *Technique* "as a reward for the six best 'grinds' submitted." Wrote the Lounger: "Here is an opportunity to let loose your pent-up feelings and indulge in any low personalities on your fellow-men that may seem advisable. What a chance to get in an anonymous slur on the Prof. who flunked you, or the roommate who walked off with your Sunday umbrella! . . . Of course, you should make your writing short and to the point . . ."

"If any fellow has been beating you playing poker, call attention to the size of his coat-sleeves. This will make him feel that he is considered ungentlemanly, and the next time he plays he will think it policy to lose. You can then crawl around and drop quietly into the game.

"Be sure to write something about the fellow who euchred you out of your best girl, and in spelling his name put in dashes where the vowels belong. This leaves no uncertainty as to who is intended.

"There is a great chance for revenge and brilliant horseplay in this *Technique* business. The Lounger is going to get in some nickel-plated work on his own score, so be careful how you deport yourself before the date of publication."

90 Years Ago

ON MARCH 17, 1875, in the Institute building at 491 Boylston Street, Boston, there assembled 23 graduates for the express purpose of perfecting the organization of the Alumni Association of M.I.T.

Class News



'89

Is there anyone who can help me by sending information concerning a member of the Class of 1889?

In connection with a book I am writing on the history of the National Board of Fire Underwriters, I would appreciate hearing from anyone who remembers **William H. Merrill**, '89, founder and president of Underwriters' Laboratories, Inc., until his death in 1923.—**A. L. Todd**, 4872 Chevy Chase Boulevard, Chevy Chase, Md. 20015.

'95

In response to our request to hear from our 10 remaining members, it was a pleasure indeed to hear from **Judson Dickerman**, Charlottesville, Va., as follows: "The December Technology Review is at hand with your request. Since I got out of the hospital on election day, November 3, I had in mind writing, but the weakness resulting has dulled my doing something, so that many such efforts have been postponed. First, let me call to your attention that one, at least, '95er is living in Virginia, where he has been well settled for 20 years, and thankfully so when he reads of the severe climate experienced elsewhere. After making a home for 10 years or more in a total of six or seven states from Wisconsin to my birth state, Massachusetts, we are well satisfied to be in central Virginia, the home of a university and two excellent hospitals. For 10 days in October-November, I was existing in University Hospital having an abdominal operation, reported to me as removal of the appendix and drainage of a bad gall bladder. Apparently, I made an excellent recovery and was considered a somewhat remarkable case since I had passed my 91st birthday. A swarm of young doctors paraded into my room to assure themselves that such an operation could be endured by a 91-year-old! I walk about indoors freely and when my daughter is available she takes me outdoors for a walk about our grounds and up the street, a block or so. I have been out to hear Don Cossack's Chorus, and to eat a few meals with one or both of the ladies of the household. Sleep demands 10 to 12 hours out of the 24 in a day. The doctors think that I am getting along fine. No one takes me for my age—my face has few wrinkles, my hair is still plentiful and wavy (sometimes curly and even not wholly white) and I stand erect thanks to the experience of five years at the B.Y.M.C.U., Boylston Street, Boston,

from old Tech. Also: no tobacco, no alcoholic beverages."—**A. D. Fuller**, Secretary, 120 Tremont Street, Boston, Mass.

'96

Charles Hyde sent a most interesting letter, that of itself assures us of his "joy of living" and of his physical ability to keep going. The Bohemian Club's Thanksgiving Play, "The Hatchet of Massasoit," was written by a member of the club. The play takes place Thanksgiving of 1661 and is related through the medium of Winslow, a friend of Miles Standish. Winslow visited Massasoit in his village; his description of the visit tells of the serious illness of Massasoit and of the appalling scarcity of food. Charles has had some serious illness from which he has since recovered, and by careful attention to regular visits to the doctors he is able to continue advising the Y.M.C.A. and the Boy Scouts. He has been singularly honored by both organizations. Charles regularly attends services in the First Congregational Church of Berkeley, the structure of whose edifice follows the best New England tradition. . . . "We can all be proud of our distinguished classmate **Bill Coolidge**, can we not." The secretary answers that the vote is unanimous! Yes. . . . A letter from **Otto Ernest Ruckgabor** stated, "It is with deep sorrow I report the death of my dear brother, **Albert** on November 21, 1964. He was 89 years old and would have been 90 on December 4. After graduating from M.I.T. in 1896, Albert served as an apprentice for two years with the Westinghouse Electric and Manufacturing Company, Pittsburgh, later under C. E. Skinner in the engineering department. Then with L. B. Stillwell, electrical director of Rapid Transit Subway Construction Company, and then with the Interborough Rapid Transit Company, New York's first subway. Following the above he was in various enterprises." . . . January 13, I called **Henry Hedge** to expand **Rich Elliot's** note to him. "He is hale and hearty in his 91st year and I am feeling much better to enjoy my 89th birthday." Rich was regular Course IX. . . . January 13 was also the 90th birthday of **Walter O. Pennell**, to be congratulated by the class by mail.—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.

'97

This month there is a bit more news than usual—two death notices, one of them much delayed and the other accompanied by a short account of the deceased's career. The first concerned **Fred**

D. Fitch, Course IV, of Westport Point, Mass., who died September 12, 1964. I don't remember him. An abstract of his life from his son or others will be appreciated. . . . The other one concerned **Charles Herbert Sweetser**, Course I, who died December 8, 1964. A sketch of his life was kindly sent in by **George D. Whittle**, '08: "Charles Herbert Sweetser, a member of your class died in Palo Alto, Calif., on December 8 and was buried on December 11. Services were held at 3 P.M. at the Roller Hapgood Mortuary in Palo Alto. He was 92 years old and retired from the Bureau of Public Roads in San Francisco, where he was district engineer during the late Forties. At that time he retired to Santa Barbara and the M.I.T. Alumni Register of 1948 showed his address there as 514 Casa Alamar Avenue. A few years later he moved to Palo Alto to be near Stanford which he also attended. His address there was 724 Cowper Street. He was a fellow in the American Society of Civil Engineers." Thanks are due to Mr. Whittle.

A fine letter has been received from Mrs. **Jack Isley** concerning records of '97, which at the request of the Alumni Association are now safely in the possession of Alumni headquarters—answering my past requests concerning disposition of them. . . . A Christmas card came from **Ed Hawkins** indicating that all is well with him excepting "old age," from which 17 other '97ers suffer.—**George R. Wadleigh**, Acting Secretary, 70 Flower Avenue, Hastings-on-Hudson, N.Y.

'98

Our class will miss a dear and active member, Mrs. **Eva (Crane) Morrill**, who passed away in her 91st year on December 23, at Reading, Mass. Her home was at 16 Hunnewell Circle, Newton. Many of us will remember her as **Eva Hayes Crane**, a Course IV student. A native of West Charleston, Maine, Mrs. Morrill was an architect in Boston until her marriage to the late **Pliny B. Morrill**, a heating and ventilating draftsman. She was a member of the Newton Women's Republican Club and the M.I.T. Women's Association. She had been a Newton resident for the past 21 years. She leaves two sons, **Paul**, Harvard, '29, and **Ted**, M.I.T., '31, also a Course IV graduate, both sons make their home in Reading. Memorial services were held in the Grace Episcopal Church of Newton on Saturday morning, December 26. The weather was so inclement that our president, **Ed Chapin**, thought it better not to venture out but the class was represented at the services by Ed's son-in-law, Professor **Holden Furber**, and your secretary, **Fred Jones**. We both had the opportunity of meeting **Paul** and **Ted Morrill** and other members of the family after the services and extending to them the sympathy of the class. . . . It was nice receiving a Christmas card with note from **Bob Lacy** of Baltimore. He was interested in our class statistics which show, as of August, 1964, 40 living members of the 448 in the original class. He says of his **Johns Hopkins Class of 1896**, of which **Bob** is

the secretary, there are eight now living out of about 60. A very interesting comparison, Bob. . . . A note from **Ed Chapin**, now at the Hotel Eliot, dated December 18, reads: "I went to Salem yesterday for a checkup by Dr. Morse. His report was quite satisfactory. He would not need to see me again until about next summer when I go to Kennebunkport, Maine. Thus I am steadily gaining more strength but with quite a little yet to be gained." Glad to read this good report, Ed. . . . Your secretary has just returned (January 5) from a few days' trip to Orange, N.J., visiting his great-grandson and his parents, Mr. and Mrs. Alan F. Jones. A little diversion now and then is very restful.—**Frederic A. Jones**, Secretary, 286 Chestnut Hill Avenue, Brighton, Mass. 02135; **Edward S. Chapin**, President, Hotel Eliot, 370 Commonwealth Avenue, Boston, Mass. 02115.

'99

Carroll W. Brown, I, has been busy for several months inspecting the building of an addition to a high school in Hampton which he constructed five years ago. . . . After a long convalescence following a severe operation **Harry White** writes he is now as good as new. . . . **Harriet Faxon** tells some interesting facts about her life at the Boston Art Museum and the Metropolitan Art Museum in New York. In the early days of yore only a few women were tolerated on the staffs but she has lived to see the appreciation of their accomplishments as lecturers and curators of the great collections of today. . . . **Arthur Burling Foote**, I, was born April 24, 1877, and died July 1, 1964, after a long illness. His father, **Arthur DeWitt Foote**, constructed a power plant in 1895 for the North Star Gold Mine in Grass Valley, Calif., which was controlled by his uncle **James D. Hague**. After graduating from M.I.T. in 1899 **Arthur** was a surveyor at the North Star. In 1901 he was surveyor and assistant superintendent of the Oriental Consolidated Mining Company in Korea until 1904 when he became assistant superintendent of the North Star. In 1913 **Arthur** became manager under **William Hague**, son of **James Hague**, until 1929 when the mine was sold. **Arthur** was a charter member of the Nevada Golf Club; a member of the Elks Club and the Empire Country Club. He enjoyed fishing in the high Sierras. He never lost interest in mining and never tired of looking at prospectors' new discoveries. He was married 51 years to **Jeannette Hooper Foote** who survives him with three daughters: **Mrs. Tyler Micoeau** of Nevada City, **Mrs. Raymond Conway** of Grass Valley and **Mrs. James Gardiner** of Reno, and 12 grandchildren.—**Percy W. Witherell**, Secretary, 1162 West Street, Wrentham, Mass.

'00

Levi B. Jennings died January 3 at his home in Weston, Mass. This had been his boyhood home and that of his fore-

bears for three generations. He was with us at M.I.T. for three years, enrolled in Course I, civil engineering. His brother, **Walter**, also was with us in the same course. He died two years ago. In 1902 **Levi** entered the employ of **Irving and Casson**, interior decorators in Boston, as buyer's assistant. He remained with this firm as salesman and later consulting decorator until his retirement a few years ago.—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton, Mass.

'01

Dr. Norman Dubois, who died on October 16, was a native of Fall River and a retired chemistry professor at Northeastern University. He graduated from M.I.T. in 1901. He received a doctorate in chemistry from Brown University in 1903. He retired 20 years ago from his position at the College of Pharmacy of Western Reserve University in Cleveland. He was a member of the American Chemical Society, Society of Chemical Engineers, American Public Health Association and had served as chairman of the Needham Board of Health from 1917 to 1921. He leaves a wife and a son.—**Theodore H. Taft**, Secretary, Box 124, Jaffrey, N.H.

'02

A bare mention of the death of **Harold Y. Currey** was made in the notes of February but further information was not available at that time. However it is now possible to give a brief biographical sketch. **Currey** was born in Evanston, Ill., June 10, 1879, and prepared for M.I.T. at the Evanston Township High School. At the Institute he took an active interest in student life and was class president in our senior year. After he was graduated as a mechanical engineer, his first four years were spent with the Draper Company, manufacturers of textile machinery in Hopedale, Mass., and the fifth with the Stafford Company, Readville, Mass., where his previous experience was supplemented by an opportunity to travel. In the following year he entered business for himself in the Chicago area specializing in manufacturing, appraising and designing, and as such was engaged by the Gulf Manufacturing and Refining Company to supervise the design and erection of a sugar mill to be built by them on Plantation Minas, Viegos, San Luis Potosi, Mexico; he was employed there for two years, 1907 through 1909. Upon his return to Chicago he engaged in similar work and later entered the employ of **Sargent and Lundy**, Consulting Engineers, electrical and mechanical, mostly concerned in design of steam electric power stations. With World War II all building stopped and **Currey** went with a firm manufacturing munitions. At the close of the war he started building in a small way but because of ill health and the severe northern winters decided to move to St. Petersburg, Fla., in 1954. Of the Florida years **Mrs. Currey** writes:

"As the years went on he became less active and finally on the morning of November 27 he did not wake up. That was the end." He was buried in St. Petersburg with a simple graveside ceremony, the reading of the burial service from the Episcopal prayer book in the presence of **Mrs. Currey**, two of his daughters, and a few good friends.

In reply to a letter to **Norman Borden** asking for news of himself and family he writes: "Personally everything with us is as good as could be expected. I have had some setbacks but they seem to have been of a temporary nature and I have been most fortunate in a great many ways. My oldest boy is a technical writer with Pratt and Whitney in East Hartford. He has a married son, a journalist in Columbia, S.C., with two young daughters. My younger son is teaching on Long Island and elsewhere but makes his permanent home in Vermont over by Burlington. He has two sons, both married but no great-grandchildren there yet. We see them all fairly often except the South Carolina grandson's family." . . . Christmas greetings were received from **Arthur Nichols** who is now in Rochester, Minn., where both his son and his son-in-law are connected with the Mayo Clinic. Cards were also received from the **Carlton Allens**, **Mrs. Mary C. Sherman**, the **Colliers**, **Ambrose Bourneuf** and **Dan Patch**.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass. 01970.

'03

The interval of publication of *The Review* from July to November has inadvertently caused a delay in your secretary's entering of some classmates' letters in our news column. **Horace Baker**, I writes: "I appreciate your notice for the coming June especially since I dropped out of sight so many years ago. I have lived and worked hard on the farm since 1923. I went to war in 1917, built a camp at Fort Worth, Texas, as constructing quartermaster, went overseas with the 111th Regiment of Engineers, 36th division. I commanded that fine regiment through our service at St. Mihiel and at Argonne. I brought them home safely to Texas. I have not much to brag about, except my children. I was fortunate enough to get a good wife, **Florence Yerxa**, sister of our classmate **Ralph Yerxa**, therefore I have good children. My sons were lucky and got good wives and my daughters good husbands, so I have a flock of good grandchildren. My oldest grandson is an electrical engineer with General Electric and promises to be a better engineer than I ever was. I have some lovely granddaughters, two great-granddaughters and two great-grandsons. My wife died March 18, 1963, after being married 59 years. May she rest in peace. I now live in our big old house with an old spinster spaniel and big old male cat. My son runs the farm and I care for two nice gardens. I close with an old Ulysses toast to the aged: 'Old age hath yet his honors and his trial. Death covers all but something ere the end. Some work of noble note may yet be wrought, though

Happy Birthday

During March two alumni will be 90 years old; seven will celebrate their 85th birthday; and 14 will enter their 80th year.

March, 1875—CONRAD LORING, '99, on the 25th; and GEORGE R. GAENSLEN, '03, on the 28th.

March, 1880—HERBERT W. DAY, '07, and ANDREW H. HEPBURN, '03, on the 6th; CHARLES O. EDGERTON, '04, on the 14th; HAROLD A. EVERETT, '02, on the 17th; THEODORE A. SAMMIS, JR., '04, on the 28th; JOHN E. TRULL, '03, on the 29th; and JOHN C. DAMON, '05, on the 30th.

March, 1885—RALPH HILSCHER, '10, on the 3rd; MICHAEL J. DALEY, '09, and JOHN F. GREENE, '07, on the 4th; PRYNCE HOPKINS, '08, on the 5th; ERNEST W. DEWITT, '12, and DANIEL F. HARRIMAN, '08, on the 16th; OTIS S. SMITH, '10, on the 17th; WILLIAM G. FICK, '09, on the 18th; RALPH W. TUTTILL, '09, on the 25th; FREDERICK C. JACCARD, '07, and WILFRED N. OLIVER, '06, on the 26th; MURRAY H. MELLISH, '10, on the 27th; ALBERT P. MANSFIELD, '07, on the 28th; and ISAAC H. STAUFFER, '10, on the 30th.

much is taken, much remains. Made weak by time and fate but strong in will, to strive; to seek; to find and not to yield."

Charles L. Bates, I, writes: "I cannot think of anything I would enjoy more than getting down for another reunion. I have always been glad that I could make our 50th, for though I was pretty lame even then, I could walk with the aid of canes. This arthritis in my legs has decided that future trips are out. For nine years I have lived in a wheel chair, although I have been able to take care of myself without aid from an attendant. Yet to take any steps at all, I have to use crutches and that is no way to enjoy a reunion. Traveling on the train is no problem. Because of being an old railroad man I get extra attention from the train men. Outside of my lameness, my health is quite good. I have a good appetite and sleep well. My home is very comfortable and so arranged that everything I need is available. I keep up my interests since Mrs. Bates died four years ago, by reading and contacting my many friends; so I am very contented."

Adolph E. Place, I, writes: "Dear Friends, I certainly would like to come to the reunion in June, but I am now in my 88th year, retired and living with my family in my home in Boulder City, Colo. I am not in physical shape for the long trip back east. However, I wish all of you a most pleasant reunion, good health and many more enjoyable years." . . . Clarence M. Joyce, V, adds: "It was very kind of you to write me a long letter regarding our class. I appreciate what you have done to hold the class together and enjoy reading news in The Review. For a number of years we have had our M.I.T. center at the Hotel Biltmore, N.Y. Last spring it was given up for lack of funds. In its place our M.I.T. group transferred to the Engineering Center on 1st Avenue and 47th Street. Its place is to promote

scientific lectures and formal M.I.T. gatherings. The cost is higher than at the Biltmore but the budget is balanced by several 'angels.' Meanwhile, our Baltimore group arranges luncheons and cocktail privileges at the Chemists' Club on 52nd and 41st streets. As you know, I take off for England every year in mid-June so I have not attended our class gatherings. Our aggressive and memorable toast master at our 60th banquet, Professor Emeritus Audrey A. Potter, VI, is again on his 'haut supreme.' Last June he was awarded the 1964 B.C.R. Award for outstanding leadership in industry-sponsored coal research, by the National Coal Association. Audrey writes that he and his devoted wife Eva, ages 88 and 80, are fairly well and comfortably busy. He devotes considerable time to Preheat Company as president and consultant. Again, he was recently appointed Honorary Professor of Engineering for 1964-1966 by the University of Alabama. This honor will not require much time, as it is more in the nature of advisor to the faculty of its College of Engineering. This assignment will probably require two or three trips by plane to Tuscaloosa for several days' stay. All good wishes to all my classmates for the year 1965."

Dr. Alice F. Blood's V, new address is New Hampshire Hospital, Medical and Surgical Building, Concord, N.H. . . . Daniel C. Picard's, V, new address is Box 394, Route 1, Stuart, Fla. . . . Clifton A. Towle, VII, passed away at Mount Lebanon, Pa., on January 13, 1963. No other information has been received. . . . Robert R. Jordan, II, passed away at Prouts Neck, Maine, on November 25, 1964. No other information has been received. . . . Miss Julia Pulsifer, VII, passed away at Auburn, N.Y., May 11, 1964, and again no information has been received. . . . Otto C. Steinmayer, V, passed away suddenly on Monday, June 15, 1964, at the age of 83. He had been indisposed for several years with heart trouble and active up to 15 minutes before his death when he was joking with his neighbors. He knew no pain nor his final end. Otto was born December 18, 1880, at La Salle, Ill. He graduated from the University of Illinois before entering M.I.T. to graduate in 1903. His career in chemistry embraced many years in Canada and he was president of the American Wood Preservers Association, while he was living in Montreal, Canada. Otto, as president, presided at the 24th annual meeting in 1928. At this meeting he discussed economic design, location, construction, maintenance and operation of wood preserving work. He was honored with a silver bowl by the Dominion Tar and Chemical Company, Ltd., at a dinner in December of 1945, at Queen's Hotel, after twenty years as superintendent and authority on timber preservation. Our classmate, Otto, later moved to West Hartford in 1956, on retirement, yet retained his life membership in the American Railway Engineering Association and the Engineering Institute of Canada. He was member of Solomon Lodge, A.F. and A.M. of Springfield, Ill. He leaves his wife, Abigail Tesson Steinmayer; a son, Otto N., Jr., of Bristol,

Conn., three brothers: Herman of Detroit, Mich., Reinhart of Waveland, Miss., and Alwin of Milwaukee, Wis.; a sister, Mrs. Lina Kolon of La Salle, Ill., and three grandsons. The burial was at West Hartford. . . . Our birthday greetings went to Marshall H. Washburn, X, on January 15, and to G. Huntington Clapp, I, January 21, for their 85th milestone.—John J. A. Nolan, Secretary, 13 Linden Avenue, Somerville, Mass.; Augustus H. Eustis, Treasurer, 131 State Street, Boston, Mass.

'04

The holidays of 1964 have passed and here it is 1965, so although you will not be reading these notes for a couple of months we wish you a pleasant and comfortable new year. There is no important news on our calendar so we take this occasion to thank all Tech friends and classmates for the many cards, telephone calls and pots of flowers received by your secretary during his recent illness. Lying in a hospital bed is not an experience to be recommended but it is one way to learn how many friends he (or his wife) has. Your secretary is glad to report a steady return to health and to express the hope that by the time these notes appear in The Review he will be back to normal. . . . We regret to report that Eugene W. Mason, Course IV, passed away on August 28, 1964.—Carle R. Hayward, Secretary, 120 Beacon Street, Boston, Mass.; Eugene H. Russell, Jr., Treasurer, 82 Stevens Road, Needham, Mass.

'05

I hope my classmates will forgive me for the unkind things I have intimated about them when I have faced the due date for news for the Review without any news. Received nearly 60 Christmas cards from '05 men and women, many containing news items about themselves and their families; in fact so much it may be necessary to withhold some of them for the April issue. Since it is impossible for me to acknowledge all promptly I just have to say thank you here and return your wishes for a healthy and happy 1965. However, I can acknowledge receipt of good wishes from Gladys and Joe Daniels, Col. and Mrs. Lovejoy, Eleanor and Lloyd Buell, Lucy and Merrill Bartlett, Edith and Ted Steel, Louise and Frank Geraghty, Mildred (Wheeler) and Harold Thompson, Court and Elizabeth Babcock, the Arthur Balkams, the Percy Hills, Bert and Alice Files, Bill and Alice Spalding, Grace and Roy Allen, Helen-Mar and Bob Beard, Rose and Myron Helpert, Bob and Jane McLean, Isabel and Charlie Smart, Helen and Hub Kenway, Fred and Dorothy Poole, the Carlton Atwoods, also Sam Seaver, Wallace Taylor, Edward C. Smith (now 87 years old), Sid Caine, Isie Nye, Harry Charlesworth, Chet Shaw, Gil Joslin, George Rhodes, Walter Eichler and Herman Eisele, who always ends

his letter, "regards to Gib Tower." In view of the fact that none of them indicated otherwise, I like to conclude that they are all tolerably well.

Huntington Smith writes from Sarasota Fla., "Ditto to your note. Yes, I am past 80,—87 to be exact as I was older than my classmates. However I still manage to play nine holes three times a week." . . .

The Warren Wells, III, Orange City, Fla., "Brr—that beautiful bridge and all that snow on your card just received! Our doors are wide open and the outside thermometer reads 78! You'd better be a comin' down here for a change of scenery. Much as we'd like to make that 60th reunion, it doesn't seem very probable. We're sort of coming apart right now. Warren is under tests for diabetes and on a strict diet, and dental troubles threatening me! So it goes." . . . **Arthur Russell, XIII**, (new address), 6393 Collins Avenue, Miami Beach, Fla.; "Having decided to give up driving, I sold my car and moved here October 1. It is a retirement hotel, and I like it for two reasons: it is directly on the ocean, and I do not have to go out for meals." . . . **Robert Luce, I**, Washington, D. C. "Still here in Washington. My son Robert and his wife Marilyn are now living in Philadelphia. As a pianist he's given several recitals there this year, and is employed in the music section of the City Library." . . .

George Prentiss, II, Holyoke, Mass., "No office and no slick chick to take dictation and the above heading is all that's left of the Wire Mill which was sold a few years ago to H. K. Porter Company which carries on under the divisional title Prentiss Wire Company not G.W.P. and Co. It was nice to get your letter Goldy, and I hasten to assure you that Isabelle and I are still enjoying good health although retarded tempo. Television programs, including baseball and football, are taking the place of hunting, fishing and boating. I never did take up golfing and skiing. We take short vacations in the spring, summer, and fall with an occasional cruise or longer trip. At present Isabelle and I are vying with each other as to which plays the worst chess. That game is the best time killer possible. I never did like bridge, and now that most of my intimate octogenarians are no longer available I'll not consider taking it up."

Errett M. Graham, I, Shaw Island, Wash., "Best wishes from the Grahams of Shaw Island. The Obstruction Island survey was finished some time ago, after about 50 airplane flights from here to Blakely Island and as many canoe trips between Blakely and Obstruction. Canoe is still going strong." . . . **Charles Mayer, IV**, Van Nuys, Calif., "Can't understand why Goldwater wasn't elected, can you?" Charlie should read the newspapers, but maybe he hasn't found the answer he wanted. . . . **Harry and Katherine Kendall, VI**, Portland, Ore.: "Temperature got down to 4 degrees last week and then almost a foot of snow. Then the snow melted fast with a deluge of warm rain. Result, disastrous flood damage—none to us personally but to roads, bridges and the low areas." . . . **Bill and Peg Ball, III**, Cotuit, Mass., "Bill keeps busy with his Power Squadron activities. He

goes to Florida in January for annual meeting. He's through in March." . . . **Harry Charlesworth, VI**, has a new address: North Caldwell, N.J. "Pardon the typewriter but I want you to know what I am saying. My Christmas greeting comes late this year (but I hope in time) due to the big move, I told might happen, when I last saw you. You recall I mentioned that my daughter had a rather large property with several buildings, including a small cottage. She has wanted me to move into this. We finally agreed, sold Hartford Road and moved in the day before Thanksgiving. What a job that was, after having put things in a big attic and cellar for 40 years. We still have boxes under beds, behind chairs, etc. However, we will get dug in sometime. It was a wise move, of course, and I am sure we will enjoy the small quarters, once we get settled. It is nice, also, to be so near Rosemary."

Edgar Bailey Cooper, II, Grosse Pointe, Mich, writes "I, personally have nothing to report other than that I have painless arthritis in my feet, a wife, and four fine grandchildren. Don't be too hard on '05 and bear in mind that most of the boys have probably had secretaries to do all of their writing for the past 30 or 40 years so that they have forgotten how to write. My good wife is writing this for me." . . . **Herb Bailey, V**, Ontario, Calif., sends me a copy of his annual Christmas letter to his family and writes that he fears there is little of interest to the class. However, I am quoting snatches with the explanation that "Grandpa" and the "old potter" are Herb S. Bailey "The hand of the potter shook at the wheel" and too as he writes these lines, but there is no shakiness in his faith in the Prince of Peace whose birth we celebrate at Christmas time. May your Christmas be a merry one filled with much happiness and thanksgiving for God's greatest-gift to the world. The old potter has much to be thankful for this year, his only sorrow, the sudden death of his brother Billy. He was the first of the four Bailey Boys to cross over to the great beyond. He did get his long desired trip around the world and we had dinner with him on his ship while she was docked at Long Beach, October, 1963. The old potter still goes a few times a month to meetings of the County School Board and Civil Service Commission in San Bernardino some 20 miles away, but has done very little ceramic work this year." . . . We have a very fine 6 inch by 8 inch card from Bernice and **Leonard Cronkhite, IV**, telling pictorially much about their family life. What a fine big family! To get the low down, I'll have to get one of the lucky grandparents to interpret it at the 60th Reunion.

The 60th Reunion is shaping up. Through letters from many classmates we have concluded that we will assemble on Saturday . . . June 12, at some good motel or club near campus, have a bang-up, good dinner there or at some nearby spot, spend Sunday at will, then gather again for the Alumni Day luncheon, dinner and entertainment. It seems odd to break our Cape Cod tradition but only two have thus far expressed the desire to go that extra hundred miles. . . . You can always

fill up space with statistics, but one fellow has asked for information and I answer as follows: Of the approximate 600 men and women who entered in September 1901, or who since allied themselves with the class, 115 are now living, that is 19 percent. Of the 244 who graduated with us in 1905, 65 are now living, that is 27 percent. Moral: it pays to graduate. Those living graduated as follows: Course I—12; Course II—12; Course III—10; Course IV—3; Course V—4; Course VI—13, Course X—1; Course XIII—8. Moral: it pays to take Course II.

I have the sad task of reporting the death of **Robert Keep Clark, II**, on Monday, November 23, 1964. I have a letter from Mrs. Clark parts of which I quote: "Robert always read your articles and seemed so pleased to keep in touch with his few remaining classmates. He suffered a stroke last April and just couldn't seem to regain his strength although he was able to be up and slightly active until a month before his death." In reading the obituary from the Door County Advocate, Sturgeon Bay, Wis., I find such an interesting story of Bob's work and good deeds that I am quoting in full. "Robert Keep Clark, Chicago industrialist and former vice-president of the American Stove Company, died Monday at Memorial hospital at the age of 85. A memorial service was held Wednesday afternoon at the Fish Creek Community Church. The Rev. Merlin Goehring officiated and burial was in Rose Hill cemetery, Chicago. A memorial fund has been established. Mr. Clark was born in Chicago, the son of George Mark Clark, founder of the George M. Clark and Company which manufactured the Clark Jewel stove. He attended Oberlin college with the class of 1902 and continued his studies at Yale. Following his graduation from Yale in 1903 he studied mechanical engineering at the Massachusetts Institute of Technology, then known as Boston Tech, receiving his B.S. degree in 1905. For a brief period Clark surveyed lumber in the forests of northern Maine and then joined his father's firm as an hourly employee. In 1902 George M. Clark and Company had merged with several other stove companies to form the American Stove company which became the largest manufacturer of gas stoves in the country under the trade mark of Magic Chef. In 1914 Clark was elected to the board of directors and in 1923 he succeeded his father as general manager of the plant at Harvey, Ill., in which capacity he served until his retirement in 1945. During World War II the Harvey plant was awarded the Army-Navy E for outstanding achievement in war production. In 1922 Clark married Margaret Holmes Whipple of Oberlin, Ohio, and they made their home in Winnetka, Ill. After the death of his first wife in 1933 Clark married Eunice Fulton Whipple and for 17 years they lived in Flossmoor, Ill. There Clark was active in community affairs, serving for several years as chairman of the school board. After retirement from active business in 1945 Clark continued for several years to serve as director of the American Stove Company. In 1952 Mr. and Mrs. Clark took up permanent residence at their sum-

mer home in Fish Creek. Mr. Clark was among the earliest summer residents of Fish Creek. His father built the first summer home in that town when its principal industry was fishing for the trout and sturgeon that abounded in Green Bay. Together they developed one of the early major cherry orchards in Door county, and Mr. Clark served for many years as a director of the Fruit Growers co-operative. In 1928 he built his summer residence at the end of Cottage Road in Fish Creek. He was active in developing the Fish Creek harbor for commerce, building, with his father, the town dock and warehouse used by the Goodrich boats. In later years he was active in making the harbor a center for summer sports and yachting, donating to the town of Fish Creek the old dock and the land for the waterfront park, and serving as commodore of the Fish Creek Yacht club during several of its most active seasons. Clark is survived by his wife, three children and two grandchildren. His daughter, Elizabeth, is a lecturer in public health at the University of California, Berkeley. His elder son, George, is an associate professor of physics at the Massachusetts Institute of Technology and lives with his wife and two daughters in Brookline, Mass. Clark's younger son, Allen, has just completed his studies for the Ph.D. degree in anatomy at the University of Wisconsin and is presently engaged in research at that university. A younger daughter, Margot, died in a drowning accident at the age of three.—**Fred W. Goldthwait**, Secretary, Center Sandwich, N. H.; **Gilbert S. Tower**, Assistant Secretary, 35 No. Main Street, Cohasset, Mass.

'06

As predicted in February we did receive notes and letters with several Christmas cards, for which we are grateful—and thanks for all the cards. One long letter came from **Mrs. R. J. Thanisch (Marion Hibbard)** who was with us only in our freshman year, then became engaged to, and married, a Harvard '07 man. He liked rowing it seems and at that time Tech had no crew. She was surrounded by Tech men, however, as her father, **Thomas Hibbard**, graduated with the Class of 1875 and was on the Alumni Council for many years. One of her brothers and two of her husband's brothers were also M.I.T. graduates. Her daughter Carolyn had a job at Harvard for many years, as assistant director of personnel. Marion said the only member of our class she saw after leaving was **Eleanor Manning O'Connor**, IV, "whom I used to meet occasionally at the Women's City Club in Boston and at the home of a mutual friend." In my acknowledgement of her nice letter I said that the next time we drive through Lakeport, N.H., perhaps I can find 43 Clark Avenue. Maybe you could, too. . . . On the card from **Florence and Allyn Taylor**, II, he confessed that he looked forward to reading the '06 notes and wanted to know: "How's Good Old Beantown?" It's being torn apart Allyn and when you and Florence are up for our 60th and have a look,

you'll be surprised at the extent, and kind, of the new construction. . . . **Georgiana Hinckley** is still at 83 Lake View Avenue in Cambridge and admits that like most of us she has slowed up. "I do read the '06 news in The Review and find many of the articles are good reading too." . . . **Mary and Harry Fletcher**, II, reported that he has made a good recovery and sometimes walks without his cane. They get around: to the geographical lectures at the Philadelphia Academy of Music, Legion dinners, etc. . . . With the card from **Clare and Jim Wick, Jr.**, II, was a note that wasn't so cheerful, although in a way it was! Jim, said they didn't see much of Rockport last summer as Clare had had a serious operation, but had made a grand recovery. Then he was grounded early in October with a near-coronary and spent three weeks in the hospital. He was getting around, driving the car, but over the stairs only once a day. Jim thinks he has "82-itis." Marion translated that for me. . . . The note with the card from **Betty and Stewart Coey**, VI, was something like Jim's as he reported that the last five weeks had been tough on the New Jersey contingent. Betty had been critically ill in the Montclair hospital in November but after blood transfusions and other treatments she began to improve and was home along in December with a practical nurse and "getting better every day." By a strange coincidence, on the same day that Betty went to the hospital their son Jack had a heart attack during a conference in the office of the Hooker Company in Niagara Falls. He too was on the critical list, for ten days, then began to improve and was taken home, again, by a strange coincidence, on the same day that his mother was. We were so glad that Stew could tell us that both were coming along fine. That new home of theirs in Wilmington, Vt., is all finished and I believe they expected to move in around the first of February. In a postscript Stew said: "On the next mention of my name in The Review, please have the printer knock L out of it." Perhaps you noticed that in the January notes he was Mr. Cloey.

The card I had sent to **Joe Santry**, IV, a galleon of the Columbus vintage, brought a prompt note of thanks and enclosed with it was a picture in color of his 'Pleione, II,' a sizable cruiser that, being a salt water man from Gloucester, excited my admiration. She (a ship is always a she you know) is based in Marblehead in summer and in the winter in Florida. Joe has a house at Bal Harbour, and about 100 yards away is the dock where the cruiser is berthed. He expected to spend the month of February in the Bahamas on the boat and added, "If I make 1966 and have 'Pleione, II' at Marblehead perhaps I can arrange a get-together on board for those who can hobble up the gangway." . . . Are you doing some thinking, too, about 1966? Before or after next Christmas we will circulate a questionnaire to stimulate that thinking! . . . In past notes I have branded the Course III men a rugged lot and in particular have commented on the way that **Guy Ruggles** gets around. So we were not surprised to have a note on his card an-

nouncing a trip east from Phoenix to spend the holidays with his daughter, whose husband is a major in the Air Force, and their family. Guy has four grandchildren, I believe. The major is stationed at the Pentagon so they are now living in Arlington, Va. Then Guy flew to Boston to visit his sister in their home town of Reading. The day after his arrival I phoned to extend Marion's invitation to them to have lunch with us at the Wellesley College Club, a delightful facility on campus, about a year old, with a view of Lake Waban and used primarily by the College Council, the faculty, and the alumnae. **Bertha and Sherman Chase**, XI, were also invited and on January 8, they all arrived toward noon, Guy and Helen came a bit ahead so I had a chance to catch up with Guy. Unfortunately the snow had gone and it was a drab day but they seemed to enjoy the buffet lunch and a look at the public and private rooms with Marion. Back at the house we three men refreshed our memories of undergrad days with the help of sundry snapshots, Sherm read a note from **Jack Norton**, V, and I read some of the messages as reported above. During our talk I broached an idea about which I had been thinking for some time, that is, to consolidate before long, perhaps somewhere in Walker Memorial, the various kinds of mementoes of our undergraduate days, commencement, reunions, etc. that are now in possession of some of our classmates and widows. I suspect that the idea was stimulated by **Frances Flويد's** stated intention of sending me, one of these days, their movies and stills taken at several reunions. Let me know what you think of the idea and what you could contribute.

Since the notes for the February issue were filed I have received another letter from **Mrs. Arthur T. McGinnis**. While not sure, she believes that **Claude's** first wife died in 1936 and that in 1944 he married **Elsie Orne** who died in 1956, in Clearwater. She also sent a correction as the older son, **Robert E.**, is now playing with the San Francisco Symphony. Besides thanking **Mrs. McGinnis** for her very considerable help I extended the sympathy of the class to the two sons and their families. . . . Along in December a letter was forwarded to me, by Miss Walker of the Alumni Office, from **Margaret**, daughter of **Clifford Redman Wilfley**, III, who died on December 9, 1964, in Denver. He was born November 19, 1882, at Maryville, Mo.; prepared at Maryville public schools and in 1905 graduated from Missouri School of Mines. He was a special student with us in senior year. From 1907 to 1910 he was first a mine engineer and then became assistant manager of the Virginia and Mexico Mine and Smelter Corporation at Hostotipaulillo, Mexico. For the next three years he was manager of the Barstow mine at Ouray, Colo., becoming a mine operator and leaser there until 1923 when he joined the Denver Municipal Waterworks as engineer. From 1925 on, he had his office in Denver as a consulting mining engineer and in recent years, at his home at 2233 Grape Street. On April 28, 1915, he married **Helen Scott** in Ouray, Colo.

His wife survives him, as do his daughter Margaret and two sisters. All of the above was contained in the letter from his daughter. In my letter to her of sincere thanks and deep sympathy, I said: "Needless to say, I am indeed grateful to you for reporting your father's death promptly, and also for including information which I otherwise would not have. Thank you so much. Your father was with our class only senior year as a graduate student but unlike so many others ('06 had nearly 60 graduates of other institutions) he had always been a loyal member of the class, sending dues frequently for years. For our 50th Reunion, he sent a report for the 10-year history, and he became a life member of the Alumni Association."—**Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills, Mass. 02181.

'07

Your secretary wrote briefly in both the December, 1964, and the January, 1965, Review notes about the **C. D. Howe Memorial Foundation** which has been established in Canada to perpetuate the memory of our classmate. I have received a copy of the "Tribute" written by George V. Ferguson, editor-in-chief of the Montreal Star and a copy of the "Conditions of Award for the Memorial Fellowships." I quote from a recent press release: "The Foundation will have two objectives. First, it will offer fellowships to young men and women, residing in Canada, who have completed their formal education and whose unusual capacities of mind and character give promise of leadership and decisive achievement in their fields of learning and endeavour. The fellowships are open to all and tenable anywhere. Secondly, the Foundation will, from time to time, award a Howe prize. This will take the form of a substantial cash award for outstanding achievement in any field of endeavour in Canada. The two programs of the Foundation will be supported by the income from a capital fund of approximately \$2 million. This fund has been made possible by contributions received from 140 individuals and 150 corporations and institutions. The Program of Fellowships will be administered by the Canadian Universities Foundation in Ottawa which is now inviting applications from individuals and nominations from educational and research institutions, both public and private. Three fellowships will be awarded early in 1964. These fellowships will have a value of \$5,000 each for single persons and \$7,000 each for married persons."

The "Tribute," as written by George V. Ferguson, is headed, "This great Maker of modern Canada" and ends with this paragraph: "The 20th Century never belonged to Canada, as Laurier thought it did. But the years from 1935 to 1957 were, in the field of economics at least, the Age of Howe. The mark he left was permanent and enduring. His life, his works, his career, his qualities, deserve the great biography which some day will be his." Our thanks go to **Jim Barker**, I, for ob-

taining these important publications for our files and for his financial help in making this foundation possible.

In reply to one of my birthday letters, I received a long letter from **Howard Marvin**, II, who is, as far as I know, the oldest living member of 1907. He was 84 last November. Howard was graduated in the spring of 1899 as the youngest member of the Slippery Rock Penn State Normal School. His father decided that he should have first-hand knowledge as to how mechanical equipment and parts were made before he went to college to study to be a mechanical engineer. He was sent to Meadville Business School to learn shorthand and typewriting. Then he served a three-year apprenticeship with the Chicago Pneumatic Tool Company in Franklin, Pa. In the fall of 1903, he entered Tech with the Class of 1907 at the age of 23, the oldest member of our class. . . . Howard was a crack tool maker but an indifferent student. After graduation, he was able to earn \$5 a week more than the technical college graduates. He is now retired and living at Riverside on Lake Zoar, Sandy Hook, Conn. . . . Our President, **Don Robbins**, sent out his annual appeal for the Alumni Fund last Novem-

ber. We all must have received one of these letters, and this is a reminder to give now, if you have not already done so. The letter which he sent to **Harold C. Libby**, I, was returned by Mrs. Libby with a newspaper clipping telling of Harold's death on September 22, 1964, in a local hospital in Charlotte, N.C. Harold came from Maine originally but had lived in Charlotte 47 years. He retired in 1955 as bridge engineer from the Southern Railway Company. Burial was in Charlotte. He was both a 32nd degree and a 50 year Mason. Surviving are his wife Catherine, two daughters and four grandchildren. Don wrote to Mrs. Libby, sending the sympathy of the class. Your secretary also wrote to her.

Last January I mailed to all the class members of 1907 a return postcard asking for information as to whether the class would, or would not, hold an interim reunion this coming June. Reservations were made at the Oyster Harbors Club two years ago. This is a reminder that if you have not filled out and returned to me the questionnaire part of the card, this is the last call to do so. Reservations must be confirmed or cancelled by April 1, 1965.—**Philip B. Walk-**

Deceased

JOSHUA CRANE, '92, December 7
ALBERT F. RUCKGABER, '96, November 21*
FRED D. FITCH, '97, September 12*
CHARLES H. SWEETSER, '97, December 8*
MRS. PLINY B. MORRILL, '98, December 23*
ARTHUR BURLING FOOTE, '99, July 1*
LEVI B. JENNINGS, '00, January 3*
FRANCIS C. LINCOLN, '00, May 8
NORMAN DUBOIS, '01, October 16*
HAROLD Y. CURREY, '02, November 27*
ROBERT R. JORDAN, '03, November 25*
MRS. JULIA PULSIFER, '03, May 11*
OTTO C. STEINMAYER, '03, June 15*
CLIFTON A. TOWLE, '03, January 13, 1963*
EUGENE W. MASON, '04, August 28*
ROBERT KEEP CLARK, '05, November 23*
HIRAM L. WALKER, '05, August 23
CHARLES L. ANSON, '06, December 23
CLIFFORD R. WILFLEY, '06, December 8*
HAROLD C. LIBBY, '07, September 22*
WILLIAM H. MARTIN, '07, December 4
CHARLES STEESE, '08, November 28*
ALDRICH BLAKE, '09, September 22*
STANLEY PAGE, '09, October 5*
IRA W. WOLFNER, '09, October 14*
LUTHER DAVIS, '10, January 8*
ANDREW L. FABENS, '10, November 27
FREDERICK C. HARRINGTON, '11, December 13*
WILLIAM W. WARNER, '11, November 25*
CHARLES M. D'AUTREMONT, '12, December 4*
RALPH DOBLE, '12, November 21
HAROLD A. GRIFFEN, '12, November 19*
ERWIN H. SCHELL, '12, January 3*
EDWARD H. CAMERON, '13, November 28
RUSSELL E. LOWE, '16, December 24
WILLIAM P. BEALER, '17, December 17
HAROLD V. CHISHOLM, '17, November 31*
J. WORTHEN PROCTOR, '17, December 7*

GEORGE L. ROY, '17, November 4*
RUSSELL A. WYLDE, '17, December 26
ARTHUR BURKE, '18, September 7*
EDWARD S. ESTY, '18, November 23
CARL B. HARPER, '18, December 7*
DON MACARDLE, '18, December 23*
CLAIRE D. ACKER, '19, September 22
STUART J. HAYES, '19, December 14
BART CASEY, '20, December*
HARRY J. ABRAMS, '21
JOHN E. BUCKLEY, JR., '21, December 9*
ATTILO CANZANELLI, '21, November 18*
GEORGE DEVLIN, '22*
GERMAIN A. FOURCADE, '22*
LEONARD B. LAIRD, '22, December 31
WALTER E. LENNON, '22, November 17
ALVA J. HARTWRIGHT, '23, December 18, 1963*
ALBERT G. MERRILL, '25, December 20*
RICHARD W. FREEMAN, '26*
ROBERT A. GILMORE, '26, September 20*
JOHN A. MURLIN, '26, January 11
ERNEST W. CARR, '27, September 4*
NOEL L. FLINT, '27, November 22
WERNER WILLMANN, '27, June 5*
CHURCHILL C. CONDIE, '32, July 1*
HAROLD P. TOWLE, '33, April 27
PAUL L. E. ALBERTI, '40, May 18
WILLIAM R. FRANKLIN, '42*
JOHN R. DINSMORE, '44, June 1
THOMAS HADLEY, '47*
WILLIAM L. JACKMAN, '49, September 27
WILLIAM L. AHLBORG, '51, December 4
ROBERT T. MCWADE, JR., '55, December 12
HARRISON PERRY, '56, April 5
NORMAN HOWARD, '58, December 5*
FREDERICK G. WILEY, '59, May 30*
PAUL A. HUDSON, '60, July 6
KING CLIFFORD, '64, January 6*

*Further information in Class News

er, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland Street, Newtonville, Mass.

'08

We are sorry to report the death of Colonel **Charles Steese** at his home in Carlisle, Pa., on November 23. "He was permitted to sleep away in his chair with his shoes on." So must it be. We will miss him at our reunion at the Cape in June. We have sent a card of sympathy from the class to Mary.—**H. Leston Carter**, Secretary, 14 Roslyn Road, Waban 68, Mass.; **Joseph W. Wattles, 3d**, Treasurer, 26 Bullard Road, Weston 85, Mass.

'09

In the January Review we stated that **Brad Dewey** had made a generous gift of securities to the Alumni Fund and that the amount would be credited as a class contribution. We wrote to Brad, whose home is now New London, N.H., expressing the gratitude of the class. He replied as follows: "Thanks for your note. I did not get to the 55th for the simple reason that as a consultant I seem to be too busy to be able to do a lot of the things I would like to do. As far as the class notes go, about all you can say about me is that I am doing about as much as I ever did, even though I am 12½ years past what was supposed to have been my retirement, or at least my first retirement. Hampshire Chemical Corporation, which I started a few years ago, has finally gone over the hump in a big way and made back its starting-up losses. It is great fun and I expect to be going full speed ahead as soon as I get over two or three weeks more of a house arrest by my wife and doctor because of a slight indisposition."

... We have received from the Alumni Office notices of the deaths of three classmates. **Aldrich Blake, VI**, died at his home in Laguna Beach, Calif., on September 22, 1964. We wrote to Mrs. Blake expressing the sympathy of the class as well as our own. She replied stating, "Thank you very much for your letter of December 8 and your kind words of sympathy in the loss of my husband, Aldrich." She continued with much information about her husband and enclosed a clipping from the South Coast News. Aldrich had a distinguished career. He was a native of Michigan and the son of Colonel John Blake, a West Pointer. He was educated abroad as well as at the Institute. Beginning in his early days he became very active in politics. In 1912 he stumped Michigan for Wilson and ran the Democratic national speakers' bureau. With the well-known Joseph Davies he was author of "Mission to Moscow." Twice he managed the successful campaigns of the blind Senator Gore of Oklahoma. He supported Jack Walton for governor and became his executive secretary. Disposing of his oil interests in Oklahoma, he moved to Los Angeles where he took an

active part in mayoralty campaigns and municipal affairs. Shortly after 1944 he retired from active politics and devoted his time to writing, mostly on civil rights, on which he was an authority. Among his several books are "My Kind! My Country!" and "You Wear the Big Shoe." Aldrich had a file of 10,000 clippings, pamphlets, etc. which was left to the Ohio State University library. Besides his widow he is survived by a daughter, Mrs. Sally Blake Webb of Del Mar, a son, Forrester Blake, a professor at Idaho State College, and eight grandchildren.

Stanley H. Page of Los Gatos, Calif., died on October 5, 1965. We have written his widow expressing the sympathy of the class as well as our own. ... **Ira W. Wolfner** of Peoria Heights, Ill., died on November 14, 1964. He was born in Peoria in 1888 and prepared for the Institute at Peoria High School. So far we have no records of his career.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass. Assistant Secretaries: **George E. Wallis**, Wenhams, Mass.; **Francis M. Loud**, 351 Commercial Street, Weymouth, Mass.

'10

I have to report the death of **Luther Davis** on January 9, 1965, who was 79 years of age. He was a biologist with Haffenreffer Brewing Company of Jamaica Plain. He was a 32nd degree Mason, member of Union Lodge in Dorchester, and a charter member of the American Meteorological Association.

... I received a very short note from **Carl Lovejoy**, who sent me a clipping of the death notice of **Andrew Fabens** which was reported in the last issue of The Review. ... I had a short note from **Phillip Harris** who states: "In the January Technology Review I note that my friend **Joe Northrup** seems perturbed about his age. I imagine that most survivors of 1910 are in their late seventies. For myself, 77 last year, I am encouraged to remember that after my paternal grandmother had her 77th birthday, she lived 20 years more".—**Herbert S. Cleverdon**, Secretary, 120 Tremont Street, Boston, Mass.

'11

I received a fine letter from **Aleck Yereance**, who wrote while "sitting" with his three-year-old grandson. Aleck favors holding our 55th Reunion at the Institute. He is planning to leave Virginia in May for his summer home on Cape Cod. ... **Sam Schmidt** also wrote and seems to favor a Cambridge reunion. Sam sent a clipping from his Cincinnati newspaper (founded by Sam) which told an interesting story of the wedding of a World War II orphan. An unknown child, the girl was turned over to a Jewish rescue committee in Paris headed by Sam. After overcoming many legal difficulties he arranged for her adoption by a Cincinnati couple. ... **Paul** and **Ollie Cushman's** four-page (8½x11) Christmas letter to their friends came as usual. Their interest

in square dance festivals and conventions took them, during the year, not only around Oklahoma but also to California, Nevada, Colorado, Texas and Arkansas. ... Both **Sallie Denison** and **Paul Cushman** report learning from the family of **Bill Warner** that he died November 25, 1964, of a heart ailment. Paul saw Bill and Mrs. Warner at Nowata, Okla., in April. Bill seemed alert and well at the time although he was walking with a cane after an auto accident. I hope to have his obituary next month. ... A niece of **Frederick C. Harrington, I**, informed the Alumni Office that Fred died December 13, 1964. He was born in Brookline, Mass., and prepared at Brookline High and Rensselaer Polytechnic Institute. The meager information available places him in New Jersey during the Thirties and back in Brookline since the Forties. His professional activity was construction work. At the time of his retirement he was connected with Whitman and Howard, Civil Engineers, Boston. If any classmate has additional information about Fred, I hope he will furnish it to us.—**John A. Herlihy**, Treasurer and Acting Secretary, 588 Riverside Avenue, Medford, Mass. 02155.

'12

Word has just been received of the death of **Harold H. Griffin** at his home in Norwalk, Conn. ... Word has also been received of the death of **Charles d'Autremont** who passed away at his home, 41301 Crest Drive, Hemet, Calif. ... Professor **Erwin H. Schell** passed away on January 3 at his home on Meeting House Hill, Norwich, Vt. Following graduation, Erwin went with the American Locomotive Company in Providence as resident engineer, later becoming labor manager for the U.S. Cartridge Company, Lowell, and later treasurer of the Henry F. Miller Piano Company in Boston. In 1917 he became associate professor at M.I.T. in a course on business and engineering administration. He became associate professor in 1926 and professor in 1929. He was the author of many books on business and economic problems. He annually presented to the seniors, in his course, a special lecture telling of personal attributes required for building a successful career. This was known as the "Million Dollar Lecture." A tabulation taken at the time of his retirement showed that his students included 130 corporation presidents, 52 partners in firms, 115 vice-presidents, 30 company treasurers and 5 company secretaries. In addition to his teaching activities he was intensely interested in the M.I.T. sailing project on the Charles and with the inter-collegiate Yacht Racing Association which has sponsored a cup in his honor, for annual competition. Since retirement Erwin had been living with his son in Norwich, Vt.

A letter from **John P. Minton** living in the Senior Citizens' Apartments, Grand Junction, Colo., states that he retired from Mobile Company in Dallas, Texas, in 1952 to become a non-paid research associate at the University of California,

Berkeley, where he worked on an idea of non-linear ordinary and partial differential equations. His study on this subject has now become quite important in high pressure wave motion study. He finds living in the Senior Citizens' Apartments an interesting life as this complex accommodates 50 older people. His daughter lives nearby and drops in on him frequently. He would be delighted to hear from any of his old friends in 1912.—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 9, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 36, Texas.

'13

Your reunion committee has tentatively reserved the accommodations for the Interim Reunion at the Coonamessett Inn, Falmouth, Mass. Those who attended the 1956 Reunion will probably agree that we are fortunate in returning to this very attractive location. The room rates are the same as they were in 1956 and we believe that the cost of meals has not increased much. You will be advised after your committee has had an opportunity to confer with Mrs. Harris, the manager. The Carlsons, the MacDonalds, the Al Browns, the Brewsters, the Bretts, the Shaws, the Fred Lanes, the Cushings, the Bion Pierces, the Eichons, the Pastenes, the Capens, the Farwells, as well as Charles Thompson and Warren Gentner expect to attend. The Sterns, the Waites, the Dempseys, the Arthur Hirsts, and Phil Burt all hope to be present. The Bill Horschs, the Rollasons, the Ken Hamiltons, the Cogans, as well as the Prescott Kellys hope to join us but are unable to decide now. Larry Hart, Stan Parker, Ralph Kennard, Allen Brewer, Charles Brown, Arthur Howlett, George Wallace, Joe MacKinnon, Bob Gans, and John Welch will not participate due to poor health, distance, or previous commitments. We hope that Bob Bonney's eye trouble may clear up before June for otherwise, we shall miss him. . . .

Geoffrey Rollason will endeavor to make it, but the graduation of a godchild in Washington may conflict. . . . Mrs. **Albert Conant** wrote a short note to **Bill Brewster** following Al's death and Bill reminds us that Conant was a star runner on the 1913 relay teams. He worked for the telephone company but was disabled for a good many years.

Allen Brewer writes at length, several times a year, about his travels. Last summer he and Maurine started on a short reunion trip to see old friends. They ended up traveling a mere 11,566 miles over a period of three months. The Brewers made many interesting stops including: Carlsbad Caverns, the Grand Canyon (where he was chicken and did not journey down into the canyon), Montezuma's Castle, Bryce Canyon, Zion National Park, Salt Lake City, Yellowstone Park, and Glacier National Park, however the Sun Highway was not passable due to snow. They then took a side trip to Canada, stopping at Calgary, Banff, and

Lake Louise. On returning to the States, "We drove through Montana to the Custer Battlefield near Hardin and then over to South Dakota and Deadwood where my father was one of the pioneer surveyors for the Dakota territory in 1882. We got to Deadwood just in time for the 75th Statehood anniversary. We took photos of the festivities and were welcomed by the Chamber of Commerce as a descendant of one of their early citizens." From South Dakota they journeyed through Wyoming, the birthplace of your class secretary, and on to Cheyenne, Colorado, Denver, Colorado Springs, the Air Force Academy, the Royal Gorge and the Garden of the Gods. They avoided Pike's Peak—again chicken. Allen continues: "From there we passed east through Kansas and stopped at Abilene to see the Eisenhower Museum and the old Abilene town where my uncle landed when he came from England in 1877. Maurine took a picture of me in the doorway of the old town jail." Proceeding further east, they visited Kansas City, St. Louis and Louisville, Ky. They spent several days at Lexington with their artist son, Allen Jr., and their six grandchildren. They went on to Pittsburgh where they visited with their son, Gordon, and his family. He is the Pittsburgh manager for the Shell Company. From there they made stops at Yorktown Heights, N.Y., the World's Fair, Fitchburg, Mass., and then went back to Pennsylvania and New Jersey. They went to their son John's home at Frederick, Md., for a visit. John is a research bio-chemist at Fort Detrich. That certainly was an interesting trip, Allen, and we are looking forward to seeing you and Maurine and hearing more about it.

Gordon Howie writes: "As Ethel and I are not sure about making our usual trip to Drakes Island from here, we are sorry we can not definitely say we expect to attend the usually grand reunion of the Class of '13 on the Cape. Yesterday we had a nice visit with Ethel and Lester Gustin in St. Petersburg. They were looking better than last year and were their same jovial selves. The Howies wish the Capens a very merry Christmas and a wonderful new year in 1965." . . . It was very pleasant to hear from **Karl Briel**: "Although late, as you say, it gives me a chance to send you the season's greetings and best wishes in the preparations for the 52nd Reunion. At this time I regret that I cannot make definite plans regarding June. During this year I have found it difficult, physically, to carry on alone in keeping a large house in shape inside and out. Will have to make plans for a change in the near future, which may be May or June. When addressing you in Canton, a bit of nostalgia pops up, for although I was born in the south, old New England is in my bones, from my boyhood in Ashmont, which was then an almost rural suburb. I knew Blue Hills, Canton, Dedham, etc. from many a hike there. But keep away from snow shoveling, George. Again, best wishes for a New Year of health and happiness." Thanks, Karl. Plan to be with us in June. **Art Hirst** still gives it the old college try. "For me at least, it is a little early to

make any plans to attend the reunion. At my advanced age I cannot promise to stagger down to the Cape, but I will do my best if I cease supporting doctors and hospitals. Sometimes I wish that I had trained to be an M.D. instead of a chemist. I have been retired for six years and enjoy it, hoping that I shall not starve to death after our politicians stop bilking the public. They should look back at the days when the state was run in a decent manner. All best regards to you and any of our classmates whom you may run into." Yes, Art. We feel that each of us should work toward governmental reform to eliminate graft and corruption.

Jack Farwell offers his contribution to the cause: "Jeannie and I are glad to hear the reunion is on and that it is at the Cape. As regards location, it seems to me that Oyster Harbors have the best all around set up for our distinguished group. Nothing much to report from hereabout. We haven't had the urge to travel since our European trip of two years ago. Our preference is for the comfort and convenience right here, with the exception of short trips now and then. Last June, Jeannie and I drove up to Canada and had a wonderful time up in the wilds, at a deluxe fishing camp, with all the luxuries and complete organization. We flew in by plane, the owner has his own plane and pilot, Indian fishing guide, cooking staff, et cetera and there was wonderful fishing, flying into different lakes. Saw many moose from the plane." . . . Lest we forget. The Capen family received a very wonderful invitation to help celebrate the 50th or Golden Anniversary of the wedding of Marguerite and **Prescott Kelly** which was held in Birmingham, Ala. on Sunday, January 10. The Kellys were honored by their gracious families, Mr. and Mrs. Joseph Hardie Meade and Mr. and Mrs. George Lafayette Austin Kelly. We have already offered our congratulations and best wishes both for ourselves and also as the representatives of the Class of 1913. Again, we extend our most heartfelt congratulations. We shall be looking forward to seeing you, Marguerite and Prescott, next June. . . . The M.I.T. Club of Mexico is holding its Annual Fiesta in Mexico, March 11-13, 1965. The guests of honor will be Dr. and Mrs. Charles H. Townes, Provost of M.I.T. and 1964 Nobel Laureate. If any of you '13ers expect to be in the vicinity in March, it is suggested that you communicate directly with Mr. Richard L. Bolin, Arthur D. Little de Mexico, Passo de la Reforma 116-804, Mexico 6, D.F. . . . Many, many thanks to our dear classmates who sent the Capen family holiday greetings. Shall we see you in June?—**George Philip Capen**, Secretary and Treasurer, 60 Everett Street, Canton, Mass.

'14

We posed a question a few months back with a reward for the correct answer. Who, after the 50th Reunion, went home and after attempting a trip to Mex-

ico, walked into a plate glass window, was hospitalized for repairs and finally settled down to a humdrum existence of painting pictures which he profitably disposed of? The correct answer, of course, none other than **Alden Waitt** of Texas. And the winner is none other than **Francis Atwood**, mine host at the Katama Shores Motor Inn at Edgartown, Mass. Now all we have to do is to get someone to donate the five dollars so the class treasury will not suffer in 1969. Or perhaps Francis will let us have it to pay at that time for this commercial. . . . Runner up in the identification contest was **Homer Calver**, who says "who else could it be since Alden is the only one besides myself who paints, so far as I know. If there are others perhaps we should start a 1914 art club and plan on an art exhibit at our next reunion—after all we can't play baseball any more!" Line forms on the right; let's raise some of the bushel baskets, and take that art show proposal seriously. In a P.S. to his note Homer writes: "Last April in Puerto Rico at a convention I met a man whom I thought I knew but I could not place him. After a day or two it dawned on me that he had the same way of blinking his eyes and turning his head as **Charlie Fiske**. So he turned out to be Bob Fiske, Yale, '24, Charlie's younger brother. Now I see him often in New York because of our mutual interest in the population problem. . . . **Hibbard Busby** in a Christmas note waxes enthusiastic about his new home in Brevard, N.C.: "It's good to have the fireplace, and real pine and oak to burn in it. Hal, there never was better country than this, a fine climate, (November was like summer) superb scenery and interesting people. I am doing some counselor training and may later develop some courses for the industries here (also getting to be a woodsman.) If you ever get this far south look us up, we are only a short run from Ashville Airport. The best to you always. H.S.B." I'm sure that Hib would welcome a visit from any '14er. His address is Box 746, Brevard, N.C. . . . And to close, a reminder that there is indeed artistic talent in 1914. Our poet laureate submits the following which we think can only properly be dedicated to Provost Charles Townes: "Lovely little lady Laser, . . . Met a manly Major Maser . . . Who determined to discretely daze her . . . But he finally failed to faze her . . . Instead by linking light and mass . . . They produced a limber lass, . . . Now they raise her." The author? We can at the moment only reveal that his middle initial is N.—**Herman A. Affel**, Secretary, R.F.D. 2, Oakland, Maine; **Ray P. Dinsmore**, President, 9 Overwood Road, Akron 13, Ohio; **Charles H. Chatfield**, Assistant Secretary and Class Agent, 177 Steel Road, West Hartford, Conn.

'15

Only four months to our 50th. In all our lifetime we can have only one of these reunions. You'll be there, of course! How about it? By now, you have re-

ceived our Reunion Booklet (a masterpiece) and letters or calls from your course representatives. In March you will get the Alumni Association letter describing the reunion plans and schedule and asking for information for the cap and gown they will furnish to wear in the academic procession. Be sure to answer their card promptly. If you have not already sent in my card sent to you in February, please do so at once. For, from this will be made up the first official reunion notice to be mailed in April. Help the Alumni Association and your Reunion Committee simply by returning those two postals. Messages from classmates all over the country show a keen and active interest in the reunion, so we feel confident this will be rousingly successful. **Mona Lacy** and her Committee have set up an interesting and delightful program for the ladies in Boston, on Saturday afternoon, June 12. Through the courtesy of the trustees of the Isabella Stewart Gardner Museum in Boston, the ladies of the Class and their guests will be invited to a guided tour of the museum followed by a concert. After the concert **Mona** and **Clive Lacy** have invited the ladies to tea in the Dutch Room. Certainly a nice thing for **Mona** and **Clive** to do for the Class. . . . **Maurice Brandt**, Salisbury, N.C., writes, with another generous check for our 50th Fund to add to what he has already given: "Your class notes are tops of them all. Keep up the leadership." Thanks, Maurice. . . . While **Sam Berke** was in Boston recently, we had dinner together. He proves that "a busy man keeps busy." A great interest in schools and education programs keeps him on the board or as a trustee of a number of schools and a small college, I believe. His herd of golden Guernsey cattle at his Lakeville, Conn., farm were recently awarded the first prize herd in the United States. In his spare time, Sam is looking into the commercial raising of strawberries. Remember, he is still active in business. I must respect Sam's modesty and not disclose his outstandingly generous gift to Ben's Fund and to M.I.T. He will present everyone attending the Class Cocktail Party on June 14 with a special and unusual take home gift. You'd better come! . . . From San Mateo, Calif., **Whit Brown** writes: "We found a nice furnished apartment out here and have had a very pleasant holiday with my son and his two children. We expect to be here until February—maybe longer. Today is the first day of sunshine in a couple of weeks, so California has its share of unusual weather. I hope to see some of our classmates in the Los Angeles and San Francisco area. I'll greatly miss the trip to the New York Class Dinner. Give my best to all the gang." It's good to know Whit has completely recovered and is able to enjoy the winter out there. . . . **Gil Peakes**, Metuchen, N.J., writes, "Recently in my stamp collecting activities I met **Arthur Bond**. He has moved to Casselberry, Fla. In New York I met **Otto** and **Helen Hilbert** doing their Christmas shopping. I am stirring up the men on my reunion list and I hope to see a lot of course XIV fellows there."

Wally Pike's oldest daughter, Marion, has been seriously sick. While visiting her in a Montclair, N.J., hospital, **Ardelle** and he met **Ned Stearns**, I, and spent some time with Ned and his family—a little Course I reunion to lighten Wally's load of sorrow. Writing to Ben from Paris on November 22, **Mary Plummer Rice** asked: "Didn't the 1915 goal for our 50th used to be \$100,000? I must have mislaid the first notice in 1957 or I must have misread the number of zeroes in the hoped for sum or the tax bill on my white elephant house and the income tax notice must all have come in the same mail. So, here is my check to double my pledge. I don't envy you but I do so sincerely wish you and all your committee complete success with the 50th Fund. I am looking forward to your presentation on June 14. It is gloomy and cold in Paris, not a bit like our Christmas at home but by the time this reaches you I'll be wishing you all a happy holiday season." Now, there's a classmate. Need I say more? Many thanks, **Mary** and we will all be glad to see you again. . . . In addition to his first check to Ben and all the reunion stationery which he has voluntarily donated, **David Hamburg** has given Ben another check to make a sizeable memorial to his deceased father and our popular classmate, **Abe**. Many thanks for his fine spirit. . . . If you don't think **Ben Neal** is working hard on our Fiftieth Fund you should see the volumes of correspondence he has with **Jack Dalton**, Max and me on "money." He's doing a monumental job and deserves thanks and praise from us all. He's coming up with a record-shattering total to put 1915 out front in alumni giving. Contributions to this year's Alumni Fund are counted in with our 50th Fund and Max is doing a great job getting everyone to give this year. **Clive Lacy** has very quietly and cosily handled the Special Gifts. They are all devoted, hard workers for 1915 and M.I.T. . . . Sixty-one Christmas cards from classmates and their families from coast to coast, from Florida to Canada warmed our hearts with a deep and sincere feeling for these fine old friendships. I will quote from these next month and also will give you the details of the annual New York City Class Dinner which was held there, January 29, at the Chemists' Club. Oh, yes! Pay your class dues—once every two years isn't too often—and "help Azel."—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge, Mass. 02142

'16

They say, if you can't get on the cover of a national magazine one way, why just try another. We haven't been able yet to contribute a cover-girl, so we've gone at it the other way, the "cover-story" route, as all can see in the October 24, 1964, issue of *The Cotton Digest*. And when we mentioned "cotton," you probably guessed, for sure enough it is

Merrill E. Pratt. Here's part of the story: "Two individuals whose names are synonymous with cotton gin equipment are shown on the cover this week. They are **Merrill E. Pratt**, Chairman of the Board, and **John T. Gordin**, President of Continental/Moss-Gordin Gin Company. They are standing with the newly-designed diamond-circle trademark of the recently merged organization. This merger brought together the 132-year-old Continental Gin Company of Prattville, Alabama, and the young, aggressive gin machinery manufacturer Moss-Gordin Company of Dallas. The consolidation was effective in late September and is said to represent the most far reaching transaction of its kind recorded in the industry. Mr. Pratt is a great-great nephew of **Daniel Pratt** who founded the town of Prattville and began the manufacture of cotton gins in 1832. He is a graduate of the M.I.T. and has been associated with Continental since 1916. He has served in engineering, production, sales, and administration and is an authority in every phase." Congratulations **Merrill**, and as chairman, you will not have to work as hard, we trust, as in years gone by!

Christmas and New Year's brought a number of original cards and warm greetings to the whole Class of '16. **Ed Hanford's** card in blue and gold via a silk screen process was an early arrival. **Bill Drumney's** beautiful original in blue, his 40th Madonna if we remember correctly from what he said a year ago, is in the collection to be shown at the reunion in June. And **Izzy Richmond's** card with a "pencil painting" of Boston, of super architectural quality, will be there. **Howard Claussen's** colored sunset at the western end of Martha's Vineyard has all the qualities that turn landlubbers into sailors. And once again, as ever since 1957, we received a beautiful card from **Bill and Millie Cann** (Harvard, '37 was it?) of Pacific Palisades, which brings back memories of our 41st Reunion in 1957, when **Millie** joined us '16ers for a reunion dinner as she was cruelly excluded from the Harvard all-stag reunion dinner in the next room at Chatham Bars Inn. Those-who-will-recall include the **Joe Barkers**, **Harold Dodge**, **Ralph Fletcher**, **Bert Ellis**, **Emory Kemp**, the **Arvin Pages**, and **Peb Stone**; also there were the **Steve Berkes** and **Johnny Woods**, but **Steve** and **Johnny** are gone. . . . **Frank Ross** writes from Naples, Fla., where he has been spending winters for years: "I have not been doing anything too exciting—two heart attacks won't permit it but we are down here for the winter as usual. Everything is going along fine, playing golf four or five times a week and having a lot of fun so I guess I can't complain a bit. It's great to read about the doings of many of the others. Keep up the good work."

Before starting off early in January for far-away ski-places on the continent, our good President **Ralph Fletcher**, left this reminder for the column: "It won't be long now before reunion time comes around. Please check to see whether you put or failed to put a note on your calendar to be at the 49th. It's at Chatham Bars Inn, Friday, Saturday, Sunday,

June 11, 12, 13 in Chatham at the south-east end of the Cape. See you there!" And speaking of **Ralph**, and furthermore speaking of last month's item of **Jim Evans'** trip across the Verrazano Bridge from Staten Island to Long Island, did you know that the piers of this bridge are Chelmsford gray granite supplied by **Ralph's** company in West Chelmsford? So we understand—such a small world. . . . Further on the reunion, the **Bill Leachs** and the **Cy Guethings** are planning to be there, and **Duncan Owler** "if at all possible". . . . **Peb Stone** is a collector of cartoons, good cartoons only, which he places under glass, no less, at his down-below bar, provided, says he, they are not so hot as to break the glass. No trip to the Caribbean this spring for the **Stones** but possibly a visit to the Southwest. Also if you are interested in "clipits" for clipping items out of newspapers, ask **Peb** all about it—he gave us one! . . . We mentioned in the November issue that **Joe Barker** is one of the wardens of Trinity Parish (downtown Manhattan) and accordingly the **Barkers** accompanied the Rector and **Mrs. Heuss** and the other warden and his wife to the re-consecration of St. Mary-le-Bow in London in June, the sister church in London of Trinity Church in New York. Now we have some details of their visit. **Mary** and **Joe** write: "Among the unusual affairs to which we were invited were a reception given in Grocers' Hall, one of the ancient guilds of the City of London and the patron guild of St. Mary-le-Bow; the Knolly Rose ceremony in the Mansion House given by the Lord Mayor, the ceremonial election of two sheriffs in the ancient Guildhall of London; visits to Coventry, Guilford, St. Paul's, Southwark and Canterbury Cathedrals, Westminster Abbey and Lambeth Palace. Trinity was invited to participate in the re-consecration ceremonies conducted by the Lord Bishop of London in the presence of Queen Elizabeth, the Queen Mother. The month-long series of affairs ended with a dinner party in the Jerusalem Chamber of Westminster Abbey, the very room where in 1697 the Charter of Trinity was signed. Following the dinner, the Dean of Westminster graciously invited the entire party to a night tour of the Abbey, a most unusual treat. Even the Lord Bishop of London said it was the only time he had ever known of such a visit." . . . Then for a few weeks on the continent, but the few weeks carried them through France, Belgium, Germany, Denmark, and Norway way on until Thanksgiving—they drove 10,000 miles "and not a scratch on our Hillman Minx."

We received from **Pearl Wilson** in her Christmas message a most interesting account written by **Bob** himself, of their travels in Europe up to their arrival in Geneva where he died unexpectedly last September 1. His last paragraph read: "Then spent 10 days in Geneva" (note the past tense) "largely attending the third Atoms for Peace Conference, which A.E.C. had requested me to do; learned on my arrival there that the bill for private ownership of special nuclear fuels by the utilities, over which I had been

working for nearly two years, had finally been passed by Congress and that President Johnson had sent me, by Dr. Seaborg, one of the pens with which he signed the bill." In an added paragraph **Pearl** notes: "This is the last opportunity I shall have to send you a greeting by **Bob** himself, so I want you to have it as he wrote it. Incidentally, the pen mentioned above is a fountain pen with the words 'The White House—The President' etched on it. Had he lived I would have had it mounted for him. He would have been very proud of it. I am proud of it, too, so I am having it mounted in memory of him and will hang it on the wall in some appropriate spot in our home." We have another item, a related item that will be of special significance to those at the 42nd Reunion in 1958, who will recall that **Bob** and **Pearl Wilson's** middle daughter **Lois** (Mrs. Dan Miles of Dallas) also attended the reunion. We understand **Lois** is now a full-fledged "investment counselor"—passed her two exams with a top grade, "just like her father." She was the third generation of **Wilson's** to head a graduating class at **Wooster**!

In December **Rudi Gruber** wrote that he was holed-up in the snow and ice of Middlesex County, N.J., "but had a wonderful four months in Europe. By auto from Paris via Nice to Rome, Naples, and Brindisi, where we embarked on Greek steamers for a visit to the Greek isles and Istanbul. Then the car again to Venice and Vienna. Then on to Germany where I spent some months, and back to New York by 'S.S. Westerdam'." (The itinerary sounds not unlike that of the **Shueys**, reported in the column this month: Sec.) **Rudi** goes on: "Have been in Boston a few times since, with visits to M.I.T., where I am now hard at work as Alumni-Member of the Visiting Committee for the Department of Modern Languages (Wow—that is a title—isn't it?)." . . . **Cy Guething** in Birmingham, Mich., has been our direct point of contact as **Phil Baker** of Grosse Pointe Shores continued to mind **Thelma** and the doctor and stay quietly on the second floor for the prescribed number of weeks after his coronary. Typical word from **Cy** read like his December 1 note: "Had a nice phone conversation with **Thelma** and **Phil Baker** to learn that he is coming along smartly. He even mentioned visiting his office downtown in two or three weeks. He asked to be remembered to all." The latest word from **Phil** (January 3) shows continued progress. We had word from **Cy** on January 7 datelined Miami as they were on their way to Harbour Island in the Bahamas for a few weeks. Says **Cy**: "It is so simple to do the same place year after year." We await a fish story or two—real ones—in due course. . . . Some time back in 1964, **Joel Connolly** out in Tucson mentioned that on the previous Christmas he had not had the usual response from **Aime Cousineau** to his Christmas greetings and wondered whether we had heard from him. We were able to tell him that **Aime** had died November 30, 1963, in Montreal. As **Joel** commented later: "He was a

nice fellow and a real gentleman and the world is poorer because of his passing." He was older than most in the class, having degrees B.A.Sc. and C.E. before coming to Tech for his degree in sanitary engineering. In later life, he was for many years the head of the Planning Commission of the City of Montreal.

... **Spotts McDowell** writes from Pittsburgh where, in retirement, he has been "living quietly in the Webster Hall Hotel, frequently seeing old friends who live in the Pittsburgh area. I like to read, especially books of travel, and without leaving my armchair I travel to every corner of the world. Some of the TV programs are interesting, especially some of the Western and musical programs."

We recently received an old clipping from the July 18, 1963, Gloucester (Mass.) Daily Times, about a tree-planting ceremony which read: "The ceremony has been planned for Sunday afternoon, July 28, in the presence of Mrs. Pitts and members of the Society of which Norman Pitts served actively for many years. During the brief ceremony, tribute will be paid by his old friend, Dr. **Morris B. Sanders**, former president of the Society and, at present, a member of its Board of Directors." ... From **Howard Claussen** we have received a set of small prints of the 5th Reunion to be exhibited at the 49th in June. Can you guess how you looked then if your name is one of the following: Fletcher, Page, Freeman, Holmberg, Robertson, Shepard, Guething, or Lawrance? Come see!

... **Mac McCarthy** has been working for the Flight Safety Foundation for the past two and a half years (all since he retired as chairman of Chance-Vought), serving a term as president and then as executive vice-president. Both of these assignments were billed as part-time jobs but he found the work of the foundation so challenging that he made practically a full time job of it. As of the end of 1964, however, he is retiring from these duties and will be content to serve the foundation in the not-so-demanding position of vice-chairman of the board of governors. He notes: "For the benefit of classmates who are not familiar with the Flight Safety Foundation, permit me to note that it is an independent, non-profit organization dedicated solely to improving safety in aviation. It was established in 1945 and is financed primarily through memberships. Support is also received through gifts and grants and from research contracts awarded the foundation for work in specified fields of aviation safety." For those who fly, and who sometimes wonder how best to make contributions that are worthwhile and highly appreciated, keep this one in mind! ... In December, we of New Jersey were all very proud of our **Leonard Best**. Just why is given in the following news release: "Leonard E. Best of Summit, N.J., was the recipient of a special tribute by local board members, school superintendents and school business officials throughout New Jersey at the dedication luncheon for the new headquarters building of the State Federation of District Boards of Education in New Jersey, on Saturday, December 5, in Trenton. The

conference room of the Federated School Boards' new offices was named for Mr. Best in recognition of his service to the education of youth of New Jersey. A portrait of Mr. Best was unveiled during the ceremonies and now hangs in the conference room." (We have a copy: Sec.) "The conference room itself was furnished by individual contributions given in Mr. Best's honor. Mr. Best, President of the Richard Best Pencil Company, served on the Summit Board of Education from 1943 until 1957. He was president of the Union County School Boards Association in 1949, legislative chairman of the State Federated School Boards in 1956 and 1957, and served as a legislative consultant to the Federated Boards in 1957 to 1959. Other of his state level educational activities include chairmanship of the State School Aid Commission in 1950, of the Citizens' Committee for Public School Support in 1952 to 1954, and of the Citizens' Committee for the College Bond Issue in 1957 to 1959." ... Featured speakers at the dedication luncheon were Governor Hughes, State Education Commission Raubinger, and Trenton Mayor Holland. Congratulations, Len!

The **Arthur Shueys** had a many-weeks' trip to Europe last spring, sailing from New Orleans March 1. "We sailed on the 'Weissenberg,' with three other passengers. Weather beautiful at first; then the worst in more than five years. We had excellent accommodations, wonderful service and food, but our fellow passengers and even the captain were seasick. By the time we reached LeHavre all was calm." They spent Palm Sunday in Rouen with Jean d'Arc, a week in Paris: "Cold and rainy every day, and even the poodles were wearing overshoes and raincoats." Then Milan, Florence, Rome, and a plane to Athens: "Three wonderful weeks in Greece, the 'must' of all travel for us. We visited island after island, and literally spent days at the Acropolis. Then by boat to Ithaca and Brindisi, following Ulysses' route." Eurail passes were especially helpful in their travels, they found—Naples, Scylla and Charybdis, Vienna, Loire Valley chateaux, and side trips to the beautiful Pyrenees. Back home in the U.S., while Arthur fished in Colorado, Mary Willis finished her "Some Kentuckians and Other People," a book with verse published over the years in Harper's, Scribner's, Southwest Review, Poetry Magazine, Collier's, etc. Around Christmas time the Shueys were off to Mexico and were completing plans for a trip to Ireland, England, and Scotland in mid-April. ... In August and September, the **Harold Grays** went to Europe "for a combined business and pleasure trip of seven weeks. We enjoyed seeing Berlin, taking a trip on the Rhine, and driving a rented Opel through southern Germany, Switzerland, and down to Venice by way of Innsbruck and Cortina d'Ampezza in Italy. We revisited some of the places where we had been 36 years ago when I was working in Italy for DuPont. We topped off the trip with a boat tour through the Greek Islands, and then came home by way of Rome and Madrid.

Life has not been all traveling however, as I still am active on a short-time basis at the plant and have enough to do so that life is far from dull."

Stew Rowlett sounds very comfortable in retirement in Clearwater, Fla.—says he is just not getting into any kind of energetic activities. He goes to no exciting places as do the **Irv McDaniels** and the **Vertrees Youngs** but, says he: "I paint, pull weeds, baby my roses, read and watch television. My health is superb according to my doctor." Finally: "I don't plan to come up to the reunion in 1965. I'm saving my money and energy for the 50th. Remember me to any who attend the monthly luncheons in New York." ... If you are getting notices about these monthly class luncheons, you have **Jim Evans** to thank. The luncheons are held at the Chemists' Club, 52 East 41 Street, on the Thursday following the first Monday of each month, two flights up, and jointly with the Class of '17. Those at the December luncheon included Messrs. Barker, Evans, Gruber, Stone, and Stern; for January it was Messrs. Binger, Dodge, Gruber, McCarthy, and Stone. Jim reports that Del deLabarre is still in the M. M. Walsh Home (420 East 59 Street, New York City), can walk some, can see visitors, and his greatest pleasure, is talking to old friends and smoking a White Owl Invincible cigar. And Jim worked especially hard in November in his little old town of Paterson, N.J., in charge of a testimonial dinner for the retiring rector of St. Paul's Episcopal Church. When we try to reach him on the telephone, there have been and still are high odds on his being in church. As the New Year gets under way we expect to hear of his renewed duties as a substitute in new math and science at a high school in Paterson. ... **Don Webster** sent us a clipping from the December 19, issue of the Boston Herald. In an article under the caption "Bishop Stokes to Conduct Service of Christmas Eve" and relating to St. John's Church, Cambridge, we read of a 1916 contribution: "And on the Sunday following Christmas Reverend **Edward Weissbach** will conduct a Christmas meditation service and a nativity pageant." And Don notes: "Ed appears to be de-retired again. Hope to look him up at St. John's on a trip to Boston." And we are expecting Don to send local news, local philosophy, and possibly penetrating observations as he and Nell spend some weeks in Mallorca in the Mediterranean. As he passed his 70th birthday, Don wrote: "Cape Cod salt air has been a good preservative so far. It does wonders for cod fish cakes so why shouldn't it work for people?" ... **Arvin Page** sent greetings for the Christmas holidays and, in his battle against arthritis says: "Am still alive but all the kicking I can do is verbal." ... Good letters from L'Roche Bousquet, Paul Page Austin, Clint Carpenter, and Irv McDaniel are yet to be reported. ... And so the column comes to a close again with the reminder that the next reunion (the 49th, that is!) comes on the Friday to Sunday weekend, June 11-13. In the meantime, help keep the little old col-

umn full and interesting by writing to any one of your class officers—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.; **Ralph A. Fletcher**, President, Box 71, West Chelmsford, Mass.; **Joseph W. Barker**, Vice-president, 45 Beechmont Drive, New Rochelle, N.Y.; **Hovey T. Freeman**, Treasurer, 45 Hazard Avenue, Providence, R.I.; **T. D'Arcy Brophy**, 50th Reunion Chairman, 470 Park Avenue, New York 22, N.Y.

'17

In the past four months you have been favored with interesting reports from classmates in reply to the questionnaire which you received last summer. Since no further replies have been received for these notes, and as a means of diluting the unhappy reports of classmates who are either ill, or have passed on, the secretary is including an account of a trip last fall to the Middle East. This was threatened in the January notes if copy became scarce. But first to a report of happenings, which, at our age, must be expected. . . . **Colonel J. Worthen Proctor** of Northampton, Mass., died on December 7. Mrs. Proctor sent the following note: "I want to report to you the very sudden death of my husband on December 7, 1964. He suffered a severe coronary thrombosis in July, 1950, but for the past 14 years had been well and active. Since 1958 he has been attending classes at the University of Massachusetts and the Western New England College with our son, Robert, who is deaf and who is studying mechanical engineering. Colonel Proctor took the lecture notes, and later worked up the material with Robert. My husband was fatally stricken in the classroom at Western New England College. Following graduation from M.I.T. in mechanical engineering, he entered World War I, after which he accepted a commission in the regular Army and made it his career for 33 years. His entire service was in the Ordnance Department. We have been living in Northampton since his retirement in 1950 except for four years from 1950 to 1954 when he was an assistant professor in mechanical engineering at Bucknell University, Lewisburg, Pa.

Harold V. Chisholm of Belmont, Mass., died on November 31. He attended Course II. He was secretary and director of Belz Industries, Inc., Mineola, N.Y. Mrs. Chisholm wrote that, "Harold loved to read the Tech Review." . . . **George L. Roy** of Longmeadow, Mass., died on November 4. He was a graduate of Course IV, architecture. At the time of his death, at age 70, he was president and treasurer of the J. G. Roy and Sons Company, building contractors. . . . Our class treasurer, **Lucius Hill**, was taken to the Peter Bent Brigham hospital in Boston on last Thanksgiving Day with a serious heart difficulty. At this writing (January 6) I am advised that he was operated on January 2 for an abscess

in the stomach region and was reported a little better although his condition has continued "nip and tuck." For several years Loosh has had a teflon aorta, but apparently that was not the immediate source of his present trouble.

Moving into the brighter side, we have word from **Bill Dennen** that he attended the inauguration of The Reverend Lane Dixon Kilburn, C.S.C. as the fifth president of King's College, Wilkes-Barre, Pa., on October 31, 1964, as the official representative of Dr. Stratton. . . . **Gus Farnsworth**, partner of Coverdale and Colpitts, consulting engineers of New York City, advises that he will retire in March as he reaches "the ripe old age" of 70. . . . Our old friend **Horace Ford** celebrated his 80th birthday on January 9, at the home of his son in Cos Cob, Conn.

Your secretary and his wife joined with about 20 others from all parts of the U.S.A. to participate in Thomas Cook's conducted tour to the Middle East. The tour began by climbing aboard an Air-India jet airliner at Kennedy airport on September 18 bound for Cairo, Egypt, a city which is a fascinating combination of the ancient and modern. The ancient included visits to the Sphinx and pyramids at Giza and the Step-Pyramid of Zoser, both dating back to approximately 3000 B.C., the mosques and minarets, Coptic churches, villages and native scenes unchanged since Old Testament days, and the river Nile. The latter was at its flood stage in September and was at its highest point in 25 years according to local information. The water reached almost up to the transportation level of the bridges. The modern sights included buildings and hotels such as the new Nile-Hilton Hotel, the Museum of Antiquities (including King Tut's relics), and the lively bazaars. In visiting the Sphinx and pyramids at Giza, everyone is treated to a ride on a camel which for some is quite a stunt. An evening flight of about two hours took us south along the Nile to Luxor, the richest of all Egyptian archeological sites: valleys of the kings and queens, tombs of Tutankhamen and Rameses VI, Temple of Karnak, all dating back to 5000 to 3000 B.C. And to be in a desert where it never rains, with the temperature in late afternoon running over 100 degrees F., makes one happy to find a spot of shade. And woe be to the fellow who goes without a hat.

The return flight to Cairo was at midnight via the Aswan Dam airfield. A full moon illuminated the desert over which we were flying. After several delays, we arrived in the Cairo hotel about 2:30 A.M. While the sights in Egypt are spectacular, one is glad to fly across the Mediterranean to Beirut, Lebanon, and to register at the new Phoenicia Hotel for a couple of days, where one does not have to be so fussy about what he eats and drinks. All the rich Arabs come to Beirut in costume to taste a little of western living. The morning after arrival, a modern bus took over to transport our group through Lebanon, Syria, Jordan and Israel. In Lebanon points of interest were the American University,

the Lebanese shore line to Byblos and Tripoli, an all-day climb up a winding road to the few remaining cedars of Lebanon, and over the mountains to Baalbek with the remains of the ancient temples. After a stopover at Chtaura, Lebanon, the bus took us into Syria and on to Damascus, rich in biblical history. Along the road to Damascus and into Jordan, we saw herds of camels and flocks of sheep and goats feeding on what remained of the wheat that had been harvested by nomadic Arabs whose lean-tos frequent the countryside. The threshing of wheat follows the century old practices. Enroute to Jerusalem, Jordan, we visited the Dead Sea (1200 feet below sea level), Jericho and the River Jordan. 1200 feet below sea level is hot and humid even in late September. The bus finally landed us at the new Intercontinental Hotel in Jerusalem, Jordan, situated on top of the Mount of Olives. Three days here provided an opportunity to visit highlights of the Holy Land: Church of the Holy Sepulchre, the Tomb of Christ, the Wailing Wall, Pool of Bethesda, Garden of Gethsemane, Bethlehem and its Church of Nativity, Tomb of the Virgin, Way of the Cross, site of Solomon's temple, etc. As you know, there is no love lost between the Arabs in Jordan and Syria, and the Israelis. Tourists can go from Jordan to Israel, but not from Israel to Jordan. The bus takes you and your baggage through the Mandelbaum Gate to a no-man's land. Armed guards of both Jordan and Israel continuously patrol the dividing wall. The Jordanian bus leaves you and your baggage and returns to Jordan. The Israeli bus picks up your baggage and you climb aboard after being rigidly checked by customs and immigration authorities. You are now in Jerusalem, Israel. The Israelis have made their small country modern and increasingly prosperous by hard work. Jerusalem, Haifa, and Tel Aviv are fast becoming modern cities with modern hotels. The new Hebrew University in Jerusalem, Israel, compares with any new university in the U.S.A. While in Israel, we visited the Sea of Galilee (about 500 feet below sea level), Tiberias, Nazareth and Capernaum. The recent border fighting between Israel and Syria occurred near Tiberias on the shore of Galilee. We visited a collective settlement in Israel which is typical of a number of successful operations. Two kinds of collective settlements appear in Israel: the kibbutzim where every form of private property except a few personal belongings has been abolished. Men and women all have a job. They receive no wages as all income from the farm and other enterprises goes into a common fund controlled by all members. Expenses are paid from this pool. Profits are used to lease more land and buy mechanized equipment. Living quarters are modern and grouped around a central dining room, which by the way was modern and spotless. All the needs of members are looked after from the cradle to the grave including education for children and young men and women. One big difference exists between this and other collective units in other coun-

tries: a farmer joins of his own free will and can leave at any time. There are also co-operative settlements (moshavim) where each farmer owns his house and garden but works the land co-operatively and markets the products in a manner similar to U.S. co-operatives. Neither of the above collectives is controlled by the state.

An Olympian plane took us from Tel Aviv to Athens, Greece, where we had several days visiting the Parthenon, and other places of historic interest in the vicinity. The trip concluded with a most pleasant one-week cruise on the Greek boat 'Stella Solaris' among the Greek Islands, through the Dardanelles to Istanbul, Turkey and return. The places visited were Crete, Rhodes, Delos, Mykonos Kusadasi and Ephesus, Turkey and Istanbul where we had two days to visit The Grand Bazaar, the beautiful Blue Mosque, the New Hilton Hotel and the Sultan's palace, now a museum, with untold treasures from all over the world. The trip back to Piraeus, Athens and a flight to New York on a TWA plane completed a very interesting one month's trip.

Another penalty which is the result of a lack of notes from members of the class is a resumption of corny jokes, one of which reads as follows: "Statistics show that every four seconds a woman gives birth to a baby. Our problem is to find this woman and stop her."—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford, Conn. 06107; **C. D. Proctor**, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J. 07035

'18

Ever since Adam was forbidden to eat of the fruit of the tree that was in the midst of the garden (observe the Bible says nothing about an apple), trees have played an important part in the satisfactions and the comforts of men. **Sax Fletcher's** Christmas card had all the enchantment of a rugged oak. From the four main branches, one for each of his children, hung the portraits of his 11 grandchildren, all arranged with exact science, so that the proper siblings were attached to the correct branches which had sprung from that solid bole representing Sax and Louise. Inside, was a color photo of the eleven in a group, probably taken on the ancestral farm in Greenfield, N.H. Just in passing, it might enliven some previous references in this column to trapping on that farm, to wonder whether Sax knows that a young woodchuck can climb a tree. No fooling. Last spring we shot one out of a tree on our own property. . . . A card from **Gretchen Palmer**, showing no shade of melancholy, brought the news that she was treed in the hospital for three weeks due to some irregularities in "the ticker." Unfettered by any taint of self-pity, most of her short note expresses concern over some one else's woes, but she closes with the tender hope of seeing us all in

June. Subsequently a letter from her brings news of **Don MacArdle's** death, apparently on December 23. Gretchen says the Christmas card from Don's wife said he had suffered a second heart attack earlier, but was recovering so satisfactorily they were planning on coming east next summer. "As for myself," she goes on, "I hope to hold out until June, when I will retire and probably go back to Connecticut. I was there for so many years it is now more home to me than Massachusetts." . . . I also had a card from **Bill Will's** widow, and from **Don Merrill's** widow. Ruth Merrill, again tracing the growth of a family tree, says son David gave Don a grandson last April, Judy also had a son in November, Beth is engaged to be married in the spring, and Janice is a sophomore in college. . . . **John Alston Clark** sent his card from Tuscaloosa, Ala., saying he preferred the South in December, hoped to see us in 1968. His card pictures a cluster of cones from the Southern pine.

Thinking further of family trees, and referring to the nine-generation genealogical research being undertaken by **Clarence Fuller**, if the tired remnants of what math I was supposed to have learned in the old Rogers Building are still reliable, nine generations away, a person's genes are only influenced one part in 512 by a given ancestor. That is, of course, on the assumption that there are no duplications in the fruit of the family tree. . . . Coming down to brothers, however, I have a correction and some additional information from **Frank Burke** concerning **Arthur Burke**, whose passing was chronicled in the January Review: "My brother entered the Institute with the Class of 1916, taking Course VII, as it then was, biology and public health. After war service, he graduated in 1918 with a degree also from the Harvard School of Public Health. Later he earned an M.D. degree from Tufts Medical School, and had been for many years with the Massachusetts Department of Public Health, lately as a regional health officer in central Massachusetts. He retired in July, 1964, and on September 7 died in Ayer, where he made his home. It was I who was graduated in architecture in 1918. There are no present plans for terminating my architectural activities until I am compelled to do so by forces beyond my control." . . . A branch from one other tree has fallen, though the only details I have now are that **Carl B. Harper** died on December 7 in Falls Church, Va.—**F. Alexander Magoun**, Secretary, Jaffrey, N.H.

'20

Additions to the long list of classmates hoping to attend our glorious 45th at the Red Lion Inn are Larry Allen, George Burt, George Dandrow, A. E. Farrington, Fracer Moffat, Lee Thomas and Ernie Whitehead. This brings the total of those indicating positive interest in reunion

plans to 81! If you are not yet counted, there is still time. Let me hear from you. It is already obvious that this will be a wonderful gathering of the clan.

George Dandrow, who may be formally listed as the Class of '22, has always considered, and been considered by us, as a true and loyal classmate and, as such, has signified his intention of coming to the reunion and bringing Catherine. George retired recently after a lifetime, illustrious career with Johns-Manville, a long time vice-president. He has acquired "Watch Hill," a lovely place about 200 yards up the beach from Chatham Bars Inn on Cape Cod with a "million-dollar view" on a bluff overlooking Chatham Harbor. The name, "Watch Hill," derives from the gun mounts placed there during the Revolution to guard against a flank attack by the British Navy. The formal address is 65 Dalecourt Road, Chatham. . . . **Ernie Whitehead** writes that he received a Christmas card from **Al Greene's** wife, Francine, saying that Al retired about two years ago and has not been in the best of health. We all wish you a speedy return to good health, Al. Classmates wishing to write may address **Albert B. Greene** at 185 Mason Avenue, Asheville, N.C. Ernie still lives in the house at 464 Salisbury Street, Worcester, that he built 37 years ago. He has two sons, and four grandchildren, three girls and one boy. Ernie says his new Thunderbird is not a car for "togetherness" what with its divided bucket seats, but he suspects he is beyond the age of one-hand driving anyway.

Eddie Howard retired in 1962, purchased an Airstream travel trailer so that he and his wife could jaunt around the country, with visits to their grandchildren in New Jersey and Indiana considered imperative. Eddie was field engineer for the Wire Reinforcement Institute. When not on the road, he lives in Lexington, Ill. . . . **K. B. White** is one classmate who never forgets the old secretary. His attractive, modern Christmas card, personally designed, indicates that he and Denise are still living happily near Paris at Arthies (Seine-et-Oise). . . . Latest addresses: **Archie Cochran**, Anaconda Aluminum Company, 507 Starks Building, Louisville; **Herman Marrow**, 42A Worthen Road, Lexington, Mass.; **Roger "Scoop" Mossrop**, 1077 Union Street, Manchester, N.H. . . . From the Boston Herald of December 29, and from the New Bedford Standard Times of the same date, forwarded by **Dick Gee** to **Buzz Burroughs** to me via Mich Bawden, '21, comes sad news of the passing of **Bart Casey** at his home in Bridgewater, Mass., after an illness of long duration. Bart had been owner of the Bridgewater News Company for 30 years. He had been chairman of the town's Board of Selectmen and served as selectman, assessor and member of the Board of Public Welfare. Classmates will remember his prowess as a semi-pro football player with the Providence Steamrollers, among others. He is survived by his widow, Johanna, a son, Lieutenant Richard J. Casey, U.S. Navy, and a daughter, Mrs. William Rosa. This class has suffered a

grievous loss and our collective sympathy is extended to his family.—**Harold Bugbee**, Secretary, 21 Everell Road, Winchester, Mass.

'21

This is our annual appreciation note, dear classmates, for your kindness in adding so much joy to the holiday season for Maxine and your Secretary. The host of personal greetings and warm notes gladdens our hearts and shortens the span of time back to those days on the Charles, despite the passing of another year. In moments of editorial stress, we have been tempted to voice the thought that no amount could be adequate remuneration for this job; your collective holiday wishes and personal items more than repay all the headaches and frustrations of the past 43 years. We are particularly heartened to observe the steady increase in the number of you who write, the quantity of news and the depth of your kind expressions to us. We sincerely thank you for so substantially contributing to our seasonal good cheer and for lightening the load of news-gathering for these columns. May the future provide for you an equivalent portion of happiness and prosperity and may you continue to write and share your observations frequently. Among those to be specially thanked are: Elizabeth and John Barriger, Ednah Blanchard, Mary and Buck Buckner, Ethel Burckett, Jack Cannon, '24, Marion and George Chutter, Mary Louise and Rich Clark, Edna and Phil Coffin, Hugh Darden, Sarita and Gonzalo Docal, '44, Maida and Ed Dubé, Helen and Ed Farrand, Gef Farmer, '23, Catharine and Harry Field, Betty and Morris Goodhart '35, Doris and Bob Haskel, Phil Hatch, Alex and Munnie Hawes, Betty and Sumner Hayward, Elisabeth and Dug Jackson, Ruth and Irv Jakobson, Marge and Jack Kendall, Laurie and Chick Kurth, Moose LeFevre, Emma and Al Lloyd, Conchita Lobdell, Milicent and Joe Maxfield, '10, Helen and Bob Miller, Helen Mosher, Phil Nelles, Muriel and George Owens, Graciela and Helier Rodríguez, Helen and Ray St. Laurent, Madeline and Rufe Shaw, Rigi and Saul Silverstein, Edith and Harry Thomas, '25, Volta Torrey, Helen and Lem Tremaine '23, Louise and Carlton Tucker, '18, Irene Walker, Ruth and Ralph Wetsten, India and Dave Woodbury.

John Barriger wrote that his retirement as president of the Pittsburgh and Lake Erie Railroad was immediately followed by his association with the St. Louis-San Francisco Railway as special consultant. John's new business offices are in the railroad's Frisco Building, 906 Olive Street, St. Louis, Mo. 63101. He has a new home address at 15 Washington Terrace, St. Louis, Mo. 63112. . . . We missed Ednah Blanchard at Alumni Day and are sorry to hear that considerable illness in her family prevented leaving her Hingham home, but she is planning to be in

Cambridge next June. **Ralph Wetsten** says he had a phone conversation with Ednah last October and marvels at her remarkable memory of former students. Ralph also reports a pleasant chat with Carlton Tucker, '18, at his M.I.T. office. . . . **Phil** and **Edna Coffin** spent Christmas with their younger daughter and her family in Santa Clara, Calif., and then enjoyed two months in Palm Springs. They are now in Naples, Fla., and expect to return to their Mt. Lebanon, Pa., home in mid-April. Our daughter-in-law teaches one of Phil's grandchildren in the third grade in Glen Ridge. Yes, Phil, we retired in 1964. . . . Those of the class who attended our 1958 reunion in Cuba will be glad to know that the then president of the M.I.T. Club of Cuba, **Gonzalo Docal**, '44, whom we adopted to head the Cuban associates of '21, will return to the New York offices of the U.S. Rubber Company from his assignment in Colombia and will live with his family in a new Greenwich, Conn., home. . . . **Ed Farrand** promises a trip from Georgia to be with us on Alumni Day and **Ed Dube** promises a visit to our Brielle home. . . . From Honolulu, **Harry Field** writes: "Greatly appreciated '21 news in *The Review*, which arrived today. Also today, I saw **Roy A. Wehe** and **A. Royal Wood** at a convention of the National Association of Utilities Commissioners, studying regulation of rates and bikini bathing suits at Waikiki Beach. Wish you were here to help. Aloha."

Bob Haskel muses on the traffic confusion accompanying the emergence of the great new Boston and goes L.B.J. one better by concluding, "Now, how about that tunnel to Washington?" As if it isn't bad enough for us outlanders to discover, under pressure to make a quick directional decision while driving in Beantown's heavy downtown traffic, that the Boston tunnel to the airport has a different name from the parallel tunnel that returns traffic from the airport. . . . **Sumner Hayward** writes nice compliments about '21 class notes. We owe him thanks for being such a regular contributor, some of which he says should go to **George Chutter** for being the actual spotter of the feature story we referenced on **Joe Wenick's** younger son. Sumner says he and Betty will be in Sarasota, Fla., from mid-February. He applauds the selection of the Griswold for our 45th Reunion in 1966. . . . The **Jacksons** sent another of their famous Christmas rhymes in the form of an acrostic, whose initial letters spell "Greetings from South America." A later message, written from their balcony on El Continental Hotel, Panama City, at Christmas time, tells of visiting various towns and areas in Colombia, Ecuador, Peru, Chile, Panama and the Canal Zone. It concludes: "We ate at an outdoor restaurant tonight—temperature 80 degrees!" The near-blizzard in Brielle as we prepare these notes must be a shocker to Dug and Betty, who are just about landing in these northern climes. . . . Our class vice-president, **Irv Jakobson**, sent welcome news of **Manuel Vallarta**. In wishing us well for the first Christmas of our retirement and in our new home, Jake notes (albeit a bit wistfully, perhaps) that

he has no thought of retirement and the company he works for has no mandatory retirement policy! . . . **Jack Kendall** says: "We expected to get east this past year but, with our several trips out here, we couldn't make it. Have a possible I.C.C. hearing coming up in Honolulu and have been checking round-the-world tours. If we hit the New York area, we'll surely take time to say 'hello' to you two. When are you coming to California?" Besides the regular first day covers, Jack sent us a most useful gift in the form of a beautifully illustrated advance program of the Tournament of Roses Parade and the game on New Year's Day. It made the television shows much more enjoyable. The Kendalls traveled to the Southwest, to northern California to visit their two young families, and to Marge's home town of Greeley, Colo. Jack is enjoying his "semi-retirement," which means he rarely misses a day at the office. He really did retire from the Tournament of Roses Committee, which he served almost continuously from his early youth, and got to sit in a grandstand for the first time!

Howard LeFevre reports: "As of last June, I became consultant to the company, here in Boston. Am fine and now trying to develop hobbies, since I have been too busy over the years to take up activities outside of business." Moose says he is scheduled for retirement in January, 1966. . . . With all due respects to every one of our correspondents, none tops the long series of greetings which the **Bob Millers** have sent in the form of family photographs. We've saved many and wish we had held on to the complete series. The latest opus comprises a group of 14—the six children, four grandchildren, son-in-law and new daughter-in-law and, of course, Helen and Bob. . . . **Phil Nelles** sent clippings on the passing of classmates as did **Chick Kurth**. Phil notes he is completing his third year of retirement in good health and remarks that life may begin at 40 but living begins with retirement. . . . **Graciela** and **Helier Rodriguez** sent a warm personal note from Madrid and the **Shaw's** greetings featured a lovely colored photo of Madeline and **Rufe** appropriately garbed for the Caribbean background. . . . **Dave Woodbury's** note says, in part: "Just finished another book—the 21st, I think—and you'll hear from me soon." . . . The newspapers gave **Munnie Hawes** credit for winning a Christmas home decoration prize, but the ensemble with the floating angel was **Alex's** idea. . . . Our sympathy goes to **Ethel Burckett** (Mrs. **Maxwell K.**) on the passing of her father. . . . It is a shock to read of the death of Professor Emeritus **Erwin Haskell Schell**, '12, and we join with all of his other former students in sincere sympathy to his family.

You will also want to join us in expressing sympathy to **G. Everett Farmer**, '23, retired T. V. A. chief communications engineer, of 608 Texas Avenue, Signal Mountain, Tenn. Gef was long a member of the Class of '21 and will be recalled as our bugler in the S.A.T.C. His annual Christmas letter bears the sad tidings of the loss of his wife, Janet, during a trip to Europe. . . . The news of **Man-**

uel Sandoval Vallarta, sent by Irv Jakobson, is in a message from Luisa, who wrote from Geneva, Switzerland: "Manuel came here to attend the Atoms for Peace Conference. He is then going to the opening of the International Institute of Theoretical Physics in Vienna, a conference sponsored by the International Atomic Energy Agency. He will also deliver a paper at the plenary session of the Pontifical Academy of Sciences, to which he was appointed a member in 1961."

... Val and **Viviano Valdes** are again members of the general committee for the 17th annual fiesta of the M.I.T. Club of Mexico City, from March 11 to 13, 1965. Dr. and Mrs. Charles H. Townes are the guests of honor and special events are scheduled to welcome the Provost of M.I.T. and 1964 Nobel laureate in physics for his pioneering development of the maser. ... Social note for **Saul Silverstein**: Queen Sirikit of Thailand heads the list of 1964's best dressed women. ... Walt Disney's announcement of the year-long 1965 celebration of the 10th anniversary of his \$50 million Disneyland establishment, calls attention to the work of Admiral **Joseph W. Fowler** (U.S.N. ret.), Disneyland vice-president, who is credited with the major part of the development of the former Anaheim orange grove.

George A. Chutter, manufacturers' representative, has maintained his active Jersey City office and one in his Portland, Conn., home until his retirement. Pressed for details, George reports, in part: "I want to thank you for following up the gossip that reached your attentive ears about my retirement. I have found the burden of traveling under all kinds of weather conditions and carrying on my business from a mobile office as well as a stationary one to be increasingly irksome. The fact that I have been away from home, except weekends, for the last 15 years has robbed Marion of companionship. I hope that we shall now have some very enjoyable years together. We are planning to go to California, looking forward to a warmer climate and freedom from the rigors of New England winters. I hope you may be traveling out in that neck of the woods so that we may see you. It is even possible that you might be charmed by the same seductive influences that have caused us to want to go there. Sun City is a retirement community developed by Del Webb, which has attained a population of about 5,000 since it was started three years ago. It is planned for 10,000 to 15,000 people. One of each couple must have attained the age of 50 to own property and there can be no children in the family under 18. With schools left out of a municipal program, taxes are conceivably held under some control. This is no minor consideration in selecting a place for retirement." Please send us your complete new address, George.

Richmond S. Clark of Baytown, Texas, starts his letter with: "It hardly seems that four years have passed since retirement from Humble Oil. They have been busy and happy years. Our advice to those contemplating retirement is: 'If you have anything you want to do, do it now, as you won't find time to do it after you retire.'"

Rich has served as the district administration officer for the Eighth Coast Guard Auxiliary, which entailed trips to Alabama, Florida and Louisiana. He is also active in church business management as chairman of the board of trustees and secretary of the finance committee. He continues: "Our 28-foot Chris Craft cruiser has kept us busy, maintaining it in 'Bristol' fashion and in short cruises and picnics with our friends. We anticipate longer cruises along the Texas coast this year, since Santa just delivered a brand new 36-foot Pacemaker convertible sedan (Rich: Made not far from our Brielle, N.J., home. Cac) which has accommodations for six. Sandy and his family are well. The two boys are now nine and five." ... Excerpts from a long letter from **Leon A. Lloyd** of West-erly, R.I., say: "This has been a wonderful year for us, for another fine son-in-law and a lovely daughter-in-law have been added to our family. Barb and Sam live in Allston, Mass. He is teaching graduate courses at Babson and Northeastern and working on his doctor's thesis at Harvard Business School. She is continuing her work in the School of Nursing at the New England Baptist Hospital. Dave and Barbara Sue live in Arlington, Va. He is with the Division of Naval Reactors, Washington. She is an economic analyst with the Department of the Interior. After Alumni Day last June, we went by train to Seattle, and by boat to Victoria where we visited the famous Butchart Gardens, again by boat to Vancouver and on to Alaska. The scenes were breathtaking as we cruised among islands and near mainland with snowcapped mountains on all sides. At Juneau we saw the Mendenhall Glacier. From Skagway, a train took us through rugged country into Yukon-Territory. Then we went to Lake Louise and Banff for stopovers at the gorgeous hotels amid scenes of unsurpassed beauty. Back home, our daughter, Edith, brought her family for a visit. Her husband, Al, is head of the finance department at Georgia State College and in demand by Atlanta banks for lectures." Leon says he is a trustee at church and finds that there are many ways a retired person can help. Emma continues her church and civic roles.

Writing from his new home address at 70 Gibson Street, North East, Pa. 16428, **Philip H. Hatch** says: "This is a long overdue note to bring you up to date. As of last June, I retired as chief mechanical officer of the Long Island Railroad. After selling our house in Pelham Manor, N. Y., we moved out here, where we have been maintaining a house for eventual retirement. During the summer, I was involved in consulting work for the New Haven on new multiple unit suburban cars until Westchester County upset the apple cart by refusing to go along with Connecticut in appropriating money to assist the railroad in its commuting operations. Our future plans include a round-the-world cruise, starting next December, and shorter trips in the meanwhile. I want to pay tribute to the excellent job you have done as class secretary. Certainly the class notes appearing in *The Review* are outstanding. I may skip some

of the articles but the '21 notes, never. I notice that more and more of the members of the class are retiring. Have just sent John Barriger a note in connection with his retirement from the P.&L.E. North East is on U.S. 20 and 90, so let me know if you're ever out this way."

John W. Barriger, 3rd, has always received so much public acclaim that we have been showered with clippings about his forward thinking activities and those famous away-from-home breakfasts in his private car or in a private club. (At our last reunion, Elizabeth Barriger confided that his closest associates now refer to him as John Breakfast Barriger!) With this mandatory retirement from the presidency of the booming Pittsburgh and Lake Erie Railroad, we have been completely deluged with additional articles and it is to the credit of many of you that you have so kindly sent them to us. Sumner Hayward, Ray St. Laurent and Ed Farrand are the latest contributors. Ed says he has just written to John. So did your Secretary—to wish him well in his new association and new home and for a continuation of many more years of breakfasts. A hurried note from John replied: "Today, December 31, 1964, is my last day on P.&L.E. I will be back at work on Monday, January 4, in St. Louis with the Frisco. These last few weeks have been so pleasantly hectic that my correspondence has been neglected. The opening weeks of my new job will likely be equally busy, so I must ask your friendly indulgence to let this brief acknowledgment serve as a temporary reply. I do appreciate your friendly sentiments and your expression of confidence will be a constant inspiration to do my best to deserve it." The highlights of the Barrigeriana must include a vignette excerpted from a Chicago Tribune feature entitled "Birthday Icing to Top Barriger's Breakfast," published December 2, 1964, the eve of John's 65th birthday. Son of a railroad executive, born in Dallas and reared in St. Louis, John practically lived in Union Station and other railroad spots. An article on the Pennsy, which he wrote as editor of the high school paper, came to the attention of the road's president, who hired John in June, 1917, as a shop hand in the Altoona, Pa., shops. John took a furlough to attend Technology and, upon graduation with us in 1921, he went back to the Pennsy. Within six years, he became a railroad securities analyst. In 1933, when President Roosevelt asked financier Frederick Prince, head of Chicago's Union Stock Yard and Transit Company, to sponsor a nationwide plan for railroad consolidation, Prince invited John to draft the program. Though nothing came of the plan at that time, current merger proposals show a marked resemblance to the so-called "Prince Plan." John's mounting fame led to his taking charge of the railroad division of the Reconstruction Finance Corporation, supplying data for \$1.5 billion of financing. His many later associations included management of the Fairbanks Morse diesel locomotive division and reorganization manager of the Chicago and Eastern Illinois Railroad. As president of the Monon, he made it the first all-diesel class

1 line in the country. He was a vice-president of the New Haven, vice-president of the Chicago, Rock Island and Pacific and, in 1956, became president of the P.&L.E. He is a vice-president of the Union Stock Yard and Transit Company and a director of many companies.

On John's birthday, the Pittsburgh Post Gazette devoted most of a page to "50 Years of Riding America's Rails," illustrated with a picture of John throwing a switch in the local yards. John estimates he has traveled at least three million miles on railroads. While so doing, he has taken and carefully filed more than 125,000 photographs and has amassed a 4,000 volume library on railroads, including "The Modern Railroad," the book that first stirred his interest at age 13. At home, he maintains a mounting 1,000 volume library of Civil War and World War I histories. Two Barriger sons are following in the railroad tradition. Stanley, M.I.T. '55, is an industrial engineer with the Missouri Pacific and John, 4th, M.I.T. '49, is a Santa Fe trainmaster. Daughter Ann is married and lives in Los Angeles and another daughter, Betty, lives at home. John's article in the May, 1964, issue of Greater Pittsburgh is entitled "Unchain the Iron Horse and Let Him Run!" This is just what he has done for the P.&L.E., which Forbes Magazine for September 1, 1964, calls the "Rich Little Road." Physically and financially strong, this 214 miles railroad has 25,000 cars, or more miles of freight cars than it has main line. They generated \$75 per mile in 1964 against a national average of \$31. Although loss of traffic to barges and trucks reduced business volume by 43 per cent, due to increased operating efficiency the road's earnings have increased 26 per cent, netting about \$14 per share.

The November 16, 1964, issue of Railway Age shows how John met all challenges to accomplish these astounding results and what his successor faces. It is interesting to note the M.I.T. triumvirate behind the story. Alfred E. Perlman, M.I.T. '23, who was once on John's staff in the R.F.C., is chairman of the New York Central, parent of the P.&L.E. John's successor is Curtis D. Buford, M.I.T. '42, the railroad's former executive vice-president who was previously with the Central. All three have railroad ties through other family members. The many testimonial affairs in John's honor developed that this "blend of P. T. Barnum and a data processing machine" will be too busy to retire, after never having lost a day's work due to illness since he was 13. So he'll probably go right on answering his own phone ("My secretary is busier than I am") and typing some of his own correspondence and those postcards with beautiful Howard Fogg pictures of everything along the right of way and, of course, those well-attended breakfasts. Lucius Beebe gave John the only known solid gold railway switch key in existence. The Class of '21 gives John the key to its heart and wishes for him and for Elizabeth many more years of super health and super happiness.

It is with deep sorrow that we record the passing of two of our members and extend sincere sympathy to their families.

Attilio Canzanelli of 37 Walnut Street, Arlington, Mass. 02174, retired professor of physiology and acting head of the department at Tufts University School of Medicine, Boston, died on November 18, 1964. Born in New York City on October 21, 1898, he prepared for the Institute at West Philadelphia High School and was graduated with us in the metallurgical section of Course III. Ted was a member of the fencing team and, during World War I, a private in the S.A.T.C. at Technology. He took advanced courses at Columbia prior to entering Tufts University School of Medicine, where he obtained the M.D. degree in 1926. Following two years of general medical practice, he returned to Tufts as a member of the faculty and research staff, carrying on some of the latter work in Germany and England. He was an honorary member of Omicron Kappa Upsilon, the medical honor society, and Alpha Omega Alpha, the dental honor society, as well as a member of the American Physiological Society, American Association for the Advancement of Science and the American Association of University Professors, being a past president of the Tufts chapter. He was also a member of the Massachusetts Medical Society, the New York Academy of Sciences and Sigma Xi, which he served as a former president. He was president and a director of the Harvard Apparatus Corporation and published some 60 research articles on physiology. He is survived by his wife, the former Beatrice Tresca of New York City; a son, Dr. Carl Canzanelli, Tufts '59, a resident in surgery at the V. A. Hospital in Buffalo, N.Y.; a daughter, Sandra, Jackson '60; two brothers, Andrew, M.I.T. '27, of Arlington, Mass., and Dr. Pericles of Watertown, Mass.; a sister, Mrs. Horace Bonaccorsi of Medford, Mass.; and three grandchildren. We are indebted to Chick Kurth for aid in preparing these notes. . . . **John Edward Buckley, Jr.**, of 33 Kensington Park, Arlington, Mass. 02174, retired rate engineer for the Boston Edison Company, died on December 9, 1964. He was born in Somerville on December 19, 1897, and had attended New Hampshire College prior to entering the Institute. At Technology, he was a member of the Electrical Engineering Society, Aeronautical Engineering Society, Civil Engineering Society, the track team and an interclass football team. During World War I, he was a private in the S.A.T.C. at M.I.T. He was graduated with us in Course VI and became an electrical inspector with C. H. Tenney and Company, Boston. He then joined the Massachusetts Department of Public Utilities as a railway inspector and was successively assistant engineer, rate engineer and director of the gas, water and electricity division of the department before becoming rate engineer for Boston Edison. He is survived by his wife, the former Mary E. McCarthy, and two daughters, Mrs. Janet Goltra and Mrs. Dorothy Ciccone. We are indebted to Phil Nelles and Chick Kurth for their aid in preparing these notes.

1921 Calendar: Meet at Alumni Day on campus in Cambridge, June 14, 1965. Attend our 45th Reunion at the Griswold

Hotel and Country Club on Eastern Point, Groton, Conn., just prior to Alumni Day on June 13, 1966. Plan now for both events and don't, under any circumstances, miss the reunion. The combination of the spacious and superbly refurnished Griswold, its newly restored 170 acres and the opportunities its location offers for visiting colonial landmarks, seeing the grandeur and picturesque beauty of the eventful countryside, together with the excellent food, championship golf course, entertainment for the ladies and a top-program in the making demand your attendance with your wife at what promises to be the finest in a long series of fine reunions. Include the event as a part of your 1966 vacation itinerary. Groton is easily accessible by air, rail, superhighway or your own boat from wherever you may be. Your reunion committee has already devoted many hours for your fun and fellowship and your class officers earnestly request you to be there and enjoy to the fullest what is in store. Whether you have attended before or not, make this reunion a **MUST** on your schedule and you'll be glad you did. Write **Mel Jenney** at the address below for special information and enclose a note for your secretaries so they'll be able to tell your friends you'll be there.—**Carole A. Clarke**, Secretary, 608 Union Lane, Brielle, N. J. 08730; **Edwin T. Steffian**, Assistant Secretary, c/o Edwin T. Steffian and Associates, 376 Boylston Street, Boston, Mass. 02116; **Melvin R. Jenney**, 45th Reunion Chairman, c/o Kenway, Jenney and Hildreth, 24 School Street, Boston, Mass. 02108.

'22

These March notes are necessarily older than yesterday's newspaper and are being written the middle of January in snowless, skiless Buffalo. We wonder where the winter went at our beautiful ski resorts south of Buffalo where the usual deep snow has been pictured in years gone by. Our snow tires just hum along on dry pavements. The good news is that your secretary had good weather while at the Augusta National and even made a couple of bucks. . . . **Kenneth G. Merriam** of Worcester was one of three members of the faculty at Worcester Polytechnic Institute to be awarded an honorary doctor of engineering degree at their last commencement. He is professor of engineering mechanics and still keeps up with modern mathematics of today. . . . Invitations have been issued by the Seattle Real Estate Board for their First Citizen Banquet honoring **Horace W. McCurdy** at the Olympic Hotel. Horace has been First Citizen for a good many years and has received previous honors for his historical, philanthropic and sea-faring activities. Our congratulations have been sent to Catherine and Horace for the class. He recently received the "Distinguished Alumnus Award" of the University of Washington. He is especially gratified to be honored in the old home town. His family has lived in this area since 1853. Again, congratulations and best wishes, Katy and Mac. . . . **Wil-**

liam H. Mueser is designing and performing all of the foundation engineering for the Albany, N.Y., Mall Development where the total expenditure is about \$400 million. Bill's work will be in the neighborhood of \$70 million. It sounds like a good neighborhood and an important field of complicated engineering. . . . Notice of another award has been received for **Earl R. Thomas**, consultant at Consolidated Edison Company of New York. He has recently received the Distinguished Achievement Award from the American Gas Association at their annual meeting in Atlantic City. The award consisted of a plaque, gold wrist watch and a substantial check. . . . **Ev Vilett** of Newark, and **Phil Alden** of Philadelphia, both of Course VI, also represented our class at the meeting.

The sympathy of our class goes to the families of **George Devlin** of Winthrop, Mass., and **Germain Fourcade** of Sonora, Mexico. . . . Among the new addresses received are those of **John Livadary**, Balboa Island, Calif.; **Albert J. R. Hous-ton**, Evanston, Ill.; **Francis J. Laverty**, Ithaca, N.Y.; **James L. Trustlow**, E. Grimstead, Sussex, England; and **Allen S. King**, 3540 James Avenue South, Minneapolis, Minn. . . . Please, always, again and forever: more news is good news to your faithful secretary so please write.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo, N.Y. 14203; **Oscar Horovitz**, Assistant Secretary, 33 Island Street, Boston 19, Mass.

'23

The Daily Commercial News of San Francisco, December 12, 1964, reported that Dr. **John E. Burchard**, internationally known authority on architecture, has been retained as a consultant to directors of the Bay Area Rapid Transit District. He was scheduled to appear before the B.A.R.T.D. Board of Directors to give his evaluation of aerial structures designed thus far for the Bay Area system. Dr. Burchard retired earlier this year from his position as Dean of the School of Humanities and Social Sciences. . . . **Edwin M. Goldsmith, Jr.** has been elected to the newly created post of vice-president-engineering of the Thomas Holmes Corporation. The corporation manufactures a complete selection of fabric hair accessories and items for drug and cosmetic outlets. He will develop and maintain procedures of operation at the Philadelphia plant. Goldsmith resides with his wife, Helen, and son Edwin, 3rd, at 104 Waverly Road, Windcote, Pa. . . . **William L. Merrill** writes: "We changed our name from Merzbach in 1945. I was back at school in the fall of 1923 to go into Course X-A but my bad leg gave me trouble and I had to leave. I went into my father's handbag business and in 1928 he liquidated just before I married Alice Siesel. We have two sons, Bill, Jr. and Teddy. Bill is single and Teddy has two children: Marc will be five in January and Mona was just a year old in October. In 1928 I went into the insurance

business and after 33 years the pressure was too much. The doctors warned me not to go back into insurance. Since July, 1962, I have been working as a volunteer in fund raising at the American Red Cross. I like the work and am very happy in it." . . . Word has been received of the approaching marriage of **Alvord Beretta Rutherford** to Miss **Hallie Margaret Pinson**. Mr. Rutherford is the son of Mrs. **John Ward Beretta** and the late Colonel **Alvord Rutherford**. Miss Pinson, formerly of San Antonio, is the daughter of the late **Theodore W. Pinson, Jr.** She is scheduled to graduate from Mt. Holyoke College in Hadley, Mass., in June. Mr. Rutherford is scheduled to graduate from Texas Law School in August. An October wedding is planned.

We are saddened to receive news of the death of **Alva J. Hartwright**, 2922 Lovers Lane, Dallas 25, Texas, on December 18, 1963. No details were included. . . . **George A. Johnson** writes, "I received the enclosed program of a meeting of the M.I.T. Club de la Ciudad de Mexico to be held March 11-13, 1965, to honor Dr. Townes." It is the 17th Annual Fiesta in Mexico. For further information or reservations write to: Fiesta Chairman **Richard L. Bolin**, '50, Arthur D. Little de Mexico, S.A., Paseo de la Reforma 116-804, Mexico 6. D.F. . . . In the past month the following changes of address have been reported: **E. Fletcher Ingals**, 16 Church Street, Belfast, Maine 04915; Commander **Julian S. Loewus**, P.O. Box 18891, Atlanta, Ga. 30326.—**Forrest F. Lange**, Secretary, 1196 Woodbury Avenue, Portsmouth, N.H. 03801; **Bertrand A. McKittrick**, Assistant Secretary, 78 Fletcher Street, Lowell, Mass. 01852.

'24

Latest retiree is **Walter R. Weeks** who retired on December 31 last after 31 years with General Electric. He was an engineer in the light military electronics department's microelectronics subsection, but primarily he was an inventor. We've mentioned before that he holds 36 patents covering a wide field. Walt will undoubtedly keep on inventing. . . . **Edson R. Wood** was with the New York Telephone Company for a good many years, recently as a supervisory engineer. Although we don't have any details, the fact that his address has changed from Scarsdale to Fort Lauderdale makes it evident that he, too, has retired to no more snow shovelling. . . . And now comes more detail on **Bob Stewart's** career with Singer. He joined the company in 1928. In 1947 he went to Scotland as managing director of Singer Manufacturing Company, Ltd., and returned to New York in 1953. A year later he was made a vice-president and elected to the board of directors. He is still a director, and will emerge from the hills of Hancock, N. H., periodically to attend board meetings. . . . One more while we're still on the subject, from **Rock Hereford** in Santa Monica: "Only three years before the time for compulsory retirement we had the choice

of moving to Pittsburgh, or early retirement from U.S. Steel. We chose the latter. For years we had dreamed of a trip to Europe together, and now it could be a leisurely one." So they took the 'Queen Elizabeth', spent a week in London, then "drove a rented Ford Corsair south, east, then north" to Scotland. From there they went to France and did most of Europe, finally taking a polar flight back to San Francisco. Sounds like a delightful way to begin retirement.

Did you notice a recent American Mutual advertisement that ran in national magazines featuring "**Raymond E. Dorr**, Industrial Account Representative." It showed Ray and one of his cohorts interviewing a customer whose product was made evident by an upended steam iron in front center. . . . There's good news to report from **Bill Robinson's** widow, **Patty**. An item from the Cleveland Plain Dealer reads as follows: "Mrs. **William Henry Robinson, Jr.**, 3049 Huntington Road, Shaker Heights, and Mr. **David Charles Miller**, Meadowhill Lane, Moreland Hills, were married August 11 at the home of her mother, Mrs. **Howard Whipple Green**, 2231 Delamere Drive, Cleveland Heights. The Rev. **Justin A. Miller** of Fairmount Presbyterian Church officiated in the presence of the immediate families. Attending the couple were their children, **Virginia Katherine Robinson** and **David Charles Miller, Jr.**" Sincere congratulations and all best wishes to **Patty** from the entire class. . . . The **Phil Bates's** divided their vacation time up last year. They were with us on Cape Cod in June, at Rancho Santa Fe in August, and at Palm Springs in November. Of course there were numerous other business-pleasure trips through the year as usual. The Bates's get around. . . . The **Cardinal's** Christmas card showed a few of their rapidly growing family. Only a few. The score is now 15 grandchildren, and the card just wasn't that big. . . . Appropriate to the season: People who gripe about income taxes can be separated into two classes: men and women.—**Henry B. Kane**, Secretary, M.I.T., Room E19-439, Cambridge, Mass. 02139.

'25

By the time you read these notes, the 40th Reunion will be a matter of only three or so months away, and your hard-working committee will be needing every bit of information regarding your plans for attending as fast as you can supply it. From all appearances, this will be a gala occasion, with the largest attendance of any reunion the Class of '25 has held. You should not be one of those failing to attend. If you have not already returned one of the several forms which have been sent to you, put one in the addressed envelope and get it in the mail today! . . . A letter reached me from **Kammy Kame-tani**; and a few days later, a note came from **Chink Drew**. Chink has spent the last three and one-half months traveling around the world, and during this time, he ran into several of our classmates. He

promised to write me some details for these class notes. Among those that Chink met was Kammy Kametani, as noted in his recent letter to me. They got together at the Tokyo Hilton Hotel on November 20, and had a Sukiyaki dinner on the Ginza at the Suehiro restaurant which is famous for Sukiyaki and beef steaks. Kammy points out that it is well known that the cattle raised in the Matsuzaka area are fed with beer and given certain massage treatments in order to provide extra special tender steaks! Kammy told Chink that he has every hope of attending our 40th Reunion, since the prospects seem quite good that he will be sent to the General Electric Plant in Lynn to discuss many points regarding the manufacture of General Electric engines. His company, the Ishikawajima-Harima Heavy Industries Company, Ltd., Aircraft Engine Division, is presently negotiating for a license agreement with General Electric. Kammy hopes very much to be at the reunion even if his company cannot pay his flight expenses. If his company does not come through, he is going to have some real problems since the Japanese Government has many restrictions on taking American dollars out of the country.

Those of you who regularly receive the Christian Science Monitor may have read the article under the heading: "Meet Manhattan," which appeared in the December 22 issue. It pointed out that Henry Booth for many years had dreamed of a room full of gentlemen wearing a glorious array of colored dinner jackets. His dream called for 47 different hues, with each jacket of a hand-woven woolen fabric "glossy to the eye and silky to the hand, and its lapels lined with black silk." Mr. Booth saw his dream come true recently when he and the Photometric Corporation invited 80 distinguished businessmen to a unique evening at the University Club. This event should be of interest to the Class of 1925, since one of the attendees, and the one whose photograph appeared in the Monitor article, was **Maxey Jarman**, Chairman of the Board of Genesco Inc.

Our congratulations are in order for **Marion W. Boyer** who was recently chosen as chairman of the board of trustees of the Sloan-Kettering Institute for Cancer Research. Marion has been with the Standard Oil concerns since 1927 except for the period 1950-1953 when he was general manager of the Atomic Energy Commission. He is now an executive vice-president and a director of the Standard Oil Company of New Jersey. He is also a director of the Commerce and Industry Association of New York, and a member of the American Chemical Society and the American Institute of Chemical Engineers. It should give him a great feeling of satisfaction to be chosen for this assignment with the Sloan-Kettering Institute which has, and is still, undertaking so much good work in the field of cancer research. . . . It is with regret that we have to announce the death of two members of our class. Commander **Albert G. Merrill** passed away on December 20, 1964, in West Roxbury, Mass. . . . The Alumni Register has received a

note that **Thomas H. Joyce** from Upper Montclair, N.J., has died. No date was given in his case.—**F. L. Foster**, Secretary, Room E19-702, M.I.T., Cambridge, Mass. 02139.

'26

Again your secretary is grateful to a group of classmates who have written enough to take care of this issue. The old back has been kicking up and the prescription is "lie on your back or stand up" which makes writing somewhat difficult. The day it flared up I happened to visit **Jim Killian** in his office and when I explained why I was hobbling he mentioned that **George Leness** is also a member of the sacroiliac clan. There seems to be a lot of us. Obviously I'm not at Pigeon Cove and obviously I want to get on with the show. Looking over the Christmas cards from Martin Staley, Al Entwistle, George Makaroff, Howard Humphrey, Argo Landau, Dave Harrison, John Longyear and Dave Shepard, I find some notes that will be incorporated in future issues. For now we will mention but two. **Al Entwistle** says, "I'll see you at our 40th!" and Class President **Dave Shepard's** card bears the following tidings: "Change of address as of February 1, 1965, from 71 Park Street, London, W.I., to Creamer Road, Greenwich, Conn." We have no further details at the moment but say "Welcome back to the U.S.A., Dave!" . . . After all these years classmate **Johnny Fletcher** has written us and we will quote from his letter: "I have been quite inactive in M.I.T. matters, both local and otherwise, for quite a few years. I did get around to joining the local M.I.T. club last year and attended some of their meetings. I enjoy going to the meetings but I seldom see anybody I know, in spite of the fact the Washington area is well supplied with M.I.T. people, including members of our class. I have been in the Chemical Division, U.S. Tariff Commission, since 1952 and expect to maintain that status until I can afford to retire, if that happy state arrives before age 70. While I may have been inactive as far as M.I.T. affairs are concerned, I have been busy in other areas. Best regards, John G. Fletcher." (John also asked about a non-M.I.T. Pigeon Cove friend—Bob Simpson—it was a coincidence because we were able to report Bob's marriage, which was announced via Christmas card.) . . . We have been writing standing up, with the block of paper on the bedpost. The lights dimmed a few times and it appears Ruth is having trouble with the disposal. We will investigate. Ruth crawled under to work the reverse switch and what do you suppose caused the stall? A rubber band! . . . Well, let's get back to the notes and a recent letter from **Bill Latham**: "Dear George: A few months ago while chasing rainbows (trout) at Owen Sound we drove by an obviously new plant of Hobart and, of course, I thought of **Guy Frisbie**. It was not until I read the paper the next day that I found he was actually there. It

seems that this was my month to develop '26 news. While in Cleveland for the annual Boy Scout meeting I talked to **Al Kinzey** in Akron who was just back from a stretch in Australia. Also at one of the workshop sessions I ran into **Dick Johnson**. Dick was there as council representative from Newburyport, having covered a similar Red Cross meeting in New York on the way to Cleveland. Regards, Bill." . . . And after Bill's reference to Guy Frisbie, what would be more appropriate than a letter from Guy? "Dear George: When I read in the notes about your buying hamburg for Heidi, ground with a Hobart machine, I could not have been more pleased. While I am sure that we have literally thousands and thousands of users who feel that way about their Hobart machines, it is gratifying to read an experience such as yours. It was particularly gratifying to note that you are 'in good shape for having graduated so long ago.' Here's hoping that you and all the rest of us keep that way. **Bill** and **Gertrude Lowell** will be spending a weekend at our house soon, so I will have an opportunity to catch up on the latest news from M.I.T. and New England. As you probably know, Bill's daughter is once more back in this country after living in Wales for two or three years, so we hope to see Bill and Gertrude more often. Troy is not exactly on a bee-line between Knoxville and Newburyport, but it is close enough. Thanks to IBM, who loaned me one of their new portable dictating units, I think I have the solution to my ever-present correspondence problem. At the moment we are returning from the annual meeting of our Canadian company in Owen Sound, Canada. Being blessed with a wife who, among her many other accomplishments, is a good driver, all I have to do is sit here and 'write' to you while she works her way through the detours of Route 6. I mention this procedure thinking that you might get a lot of class notes written between Boston and Pigeon Cove. All the best to you, and many thanks for a very excellent commercial regarding the longevity of Hobart machines. Cordially yours, Guy Frisbie." Thanks John, Bill, and Guy for this month's Class News! I was certainly happy to have something in the reservoir.

Before finishing there is the unpleasant task of telling you that **Richard W. Freeman's** widow has written of his passing a year ago. . . . We also had a communication from "**Bean**" **Lambert** that **Robert A. Gilmore** died last September—no details except that he had been living in Pikesville, Md. . . . We hope and expect to be writing the April issue from Pigeon Cove—meanwhile, cheerio.—**George W. Smith**, Secretary, E. I. duPont de Nemours and Company, Inc., 140 Federal Street, Boston, Mass.

'27

This is early March for you but it is still early January as I write this. So this is the first chance I have had to thank those of you who made contact with

your class secretary with a Christmas card, especially those who added a "how-goes-it" note. . . . **Tom Stanton** was named commission of water and heat for the City of Cleveland in 1959. A recent article in Cast Iron Pipe News brings us more up to date. Tom is apparently the envy of other waterworks managers because he is able to draw water from the inexhaustible supply of Lake Erie and even the raw water is pretty good. His aim is to furnish all the water anybody can use. Even with a peak demand last summer of 540 million gallons per day, there was only a partial sprinkling ban in the suburbs, and with all this, Cleveland's rates are the lowest of the large city rates in the United States, and water unaccounted for is also a record low. Leak detection was Tom's specialty when he went from the Pitometer Company to Cleveland's Department of Public Utilities in 1937. From that point he rose through the ranks to his current job. At Tech, he started in Course I but moved into specialization in sanitary and hydraulic study and graduated in IX-B. His home is at 2650 University Boulevard, Shaker Heights, Ohio. . . .

Nat Cohn, as vice-president for technical affairs of Leeds and Northrup Company continues to lead a life of accomplishment. This spring he and his wife will go around the world on a business trip, with some sightseeing added for good measure. Their oldest son, Ted, graduated at M.I.T. in Course VI in 1963 and is doing graduate work in bio-engineering at the University of Michigan. He hopes to go on for a Ph.D. Another son is now at M.I.T. and two daughters are also at college. Quite a program—and a little girl is in first grade. I see now that in writing of 'Who's Who' lately, I overlooked saying that Nat is listed in that publication. . . .

Ed Damon writes from a cottage on a lake with 1,300 miles of never-freeze shoreline. That must be the Lake of the Ozarks. He says that he is looking forward to our reunion at Melvin, N.H., in 1967 and hopes to get to Australia between now and then. . . . **Glenn Jackson's** Land Yacht project now includes a unit designed for Florida travel and another for below-zero weather. . . .

Dr. David Luck, who has been working for both R.C.A. and the Department of Defense, has moved from Princeton, N.J., to P.O. Box 3587 Santa Barbara, Calif. 93105. I've written to him for possible additional information. . . . Our congratulations to **Dr. H. E. Edgerton** who has been awarded the Progress Medal of the Royal Photographic Society of Great Britain. I understand that this is their top recognition for advancement in the field of photography. It will be presented in London. . . . More honors for

Wes Meytrott: Governor Rockefeller has appointed him to the council of New York's Downstate Medical Center. . . . Did you see that Boston Insulated Wire and Cable Company celebrated its 60th anniversary? **Joe Burley** is president of this organization, which specializes in heat-resistant products.

This month there are regretfully three deaths to report. Colonel **Ernest W. Carr** died September 4, 1964. At Tech he was

in Course IV and during World War II he was with the U.S. Engineers in Washington and the Pacific area. His home was at Framingham Road, Marlboro. . . . A report very long in reaching us is of the death of **Dr. William C. Morse** of University, Miss., on March 2, 1962. He received a B.A. degree from Ohio State University in 1906 and an M.A. in 1908, followed by much additional study, including graduate work at M.I.T. in 1926 and 1927. His career was mainly in geology and was distinguished. A bulletin of the American Ceramic Society lists no less than 60 of his publications. When he retired he was head of the department of geology at the University of Mississippi and director of the geological survey of that state. . . . **Werner Willmann** of 29 Fallen Street, Cambridge, died June 5, 1964. He graduated in Course II with our class and then took a degree at Harvard. It would be most helpful if a classmate could supply any further information.—**Joseph S. Harris**, Secretary, Masons Island, Mystic, Conn. 06355

'28

A note from **Dick Hoak**: "The enclosed item may have a mild interest for some of our classmates. It suggests that virtue is eventually rewarded if one lives long enough." The clipping: "Dr. Richard D. Hoak, senior fellow at Mellon Institute, will be honored next month by the American Society for Testing Materials' Committee on Industrial Water. Dr. Hoak will receive the committee's Max Hecht Award for 1965 at a testimonial luncheon January 26 in West Palm Beach, Fla. Dr. Hoak will be cited for his work in organizing task forces on industrial water, for his policy-making decisions and for developing improved analytical methods and instruments." . . . From the program of a meeting held by the American Association for the Advancement of Science in Montreal in the latter part of December, we note that **Ellis Johnson** of Case Institute of Technology helped arrange part of a symposium on "Managing the Innovative Process," which was a joint program of the Institute of Management Sciences and the Operations Research Society of America. The theme of this session: "Scientific and technological developments that are occurring at a rapidly increasing rate influence all elements of our society. These innovations have important consequences on the economic and social welfare of our nation's institutions. The sessions are devoted to examining the effect of innovation on the performance and management of educational, industrial and governmental systems."

A news bulletin from Goodyear tells us that Board Chairman Russell DeYoung recently announced that **John Hartz**, development manager, has been appointed director of tire development. John has been with Goodyear more than 30 years and has devoted more than 20 years to the development of compounds for tires, tubes

and other rubber products. In 1951 he was assigned to direct all production at Goodyear's Japanese affiliate located in Kurume. He returned to Akron as manager of tire compounding in 1953, and held that position until he was named development manager in 1956. . . . A news item in the Goodyear house organ *The Wingfoot Clan* follows: "**Albert J. Garcia**, Vice-president for research, is participating in an International Conference on The Manpower Implications of Automation, in Washington, D.C. The conference is being held under the joint sponsorship of the United States Department of Labor, the Canadian Ministry of Labour, and the Organization of Economic Co-operation and Development. At the three-day meeting in the State Department, high-level representatives of government, management, labor and universities are examining the impact of automation on employment, the nature of jobs being created and eliminated, and steps to be taken to ease the effect of technological change on workers. "Garcia is participating with others in the discussion that follow the reading of technical papers on various aspects of automation."

From our loyal roving correspondent **Jim Donovan** we quote from two recent letters: "Christmas brought a card and letter from **Herb Dayton**, Course X. Herb lives at 16308 Avenue C, Channelview, Texas 77530, which he tells me is just 15 minutes out of Houston. He writes, 'We enjoyed your note in the Tech Review. I didn't know that **Don Sturznick** was here in Houston—since then we have visited with him several times.' Herb says, 'I was sorry to have missed you on your last visit. I was probably out on a trip. I keep quite busy since retirement; read many magazines, perform the duties of treasurer of the local Methodist Church, and keep up with the stock market, because my income partly depends upon it.' Over the years Herb had seen **Rene Simard** at various Humble Oil meetings and reports that Dick Hoak and his wife had stopped by. He says that he and his wife Charlotte have two sons, Alan and Dick. Alan has two children and Dick six. Alan works for Texas Instruments and Dick with six children is finishing up his electrical engineering degree. Rene Simard is now chief of the fuels and explosive division for the Department of Industry for the Canadian government. He says the work is most interesting and signs himself 'Your Civil Servant.' Pam and Rene now live at 130 Kamloops Avenue, Ottawa 10, Canada. A recent letter from **Walter Nock** says, 'Needless to say I did receive your last letter but, as always, placed the same to one side for answer and have not done so due to various trips I've taken lately. Taking care of foreign operations, particularly in Mexico, especially in an extractive industry is really a headache. Our son Ronnie is taking his junior college year at the University of Madrid in Spain, and from all we hear is having a whale of a time. He is not an engineer, has absolutely no bent in that direction, and instead is taking up economics and languages.' Thanks for the news, Jim. . . . Your secretary attended a meeting of

the Massachusetts Building Congress in the middle of January and had a pleasant conversation with **Earl Crawford**, who reports that he became associated with Whitman and Howard last June as a project engineer and was at the moment trying to sell a new sewerage system to the town of Burlington, Mass.—**Hermon S. Swartz**, Secretary, Construction Publishing Company, Inc., 27 Muzzey Street, Lexington, Mass. 02173.

'29

Those of us who attended Alumni Day remember that **Bill Aldrich** was hurriedly called home by Maxine's sudden illness, but we were pleased to hear that she has been coming along pretty well ever since and looks and feels better. **Wally Gale** and Bill's son drove Bill's car back to Billings, and Wally tells us that Bill is "Mr. Billings, Montana" and as M.I.T. Educational Counsellor has placed more lads in the Institute, with better results, than anyone in the country on a per capita basis and thinks nothing of driving 500 miles to interview and advise a prospect. That's quite a record, Bill, and we're proud of you. . . . We were sorry to learn that **Ted Malmstrom** was in a very serious accident while on business in Rochester, N.Y., sometime before Christmas, but hope that by now he is home from the hospital and recuperating nicely. . . . **Nell Plugge** pitched in for **Jack** by writing us a nice note. They became grandparents on two consecutive days last October; one was a boy for their son John and his wife, Christine, and then there was a little girl for their son Jim and his wife, Caroline. Although Jack has retired from regular working hours, the Plugges keep very busy enjoying life, attending National Geographic Society lectures on Fridays from November through March, Theatre Guild plays, Orchid Society and Gem and Lapidary Society meetings, which are but a few of their activities. . . . From various news clippings we learn many good things about our classmates. **Albert Dietz** was co-chairman of the Fourth Annual Symposium on high-speed testing sponsored by Plas-Tech Equipment Corporation held in Boston in May, 1963. . . . **Vincent Gardner** was chosen as the second president of the American Society for Hospital Engineers and is also serving as President of the New England Hospital Engineers Society. Vince is administrative engineer and head of the maintenance department at Beth Israel Hospital in Boston. . . . **H. F. Tomfohrde** was elected a vice-president of Tidewater Oil Company last summer and his new position entails responsibility for Tidewater's international transportation, refining, marketing, exploration and production operations. . . . Another news release reveals that **Mace Smith**, in Birmingham, was elected a vice-president of Chicago Bridge and Iron.

In Tulsa, **Daniel Silverman** has assumed the newly-created and important position of research consultant in Pan

American Petroleum Corporation's research department as of January 1. He is the author of numerous papers, holder of many patents, and is a nationally recognized scientist. In his new position he will devote his efforts to technical matters covering a wide scope of interest to Pan American, and the company will have the advantage of his over-all scientific competence, including, but not limited to geophysics. . . . In Boston, International Shoe Machine Corporation has appointed **David Rubinstein** to the post of director of chemical research, a new position, in which he will co-ordinate the development and application of International's new chemical products. Our congratulations to all of these fellows in their various fields of endeavor. . . . Via a Christmas card, we learn that **Andy Ivanoff** is now living at 668 Canterbury Street, Kissimmee, Fla.

Now for a few highlights gleaned from the questionnaires. . . . **Joaquin Llano** is manager of the technical department of Cia Importadora Exportadora Nacional S. A., Lima, Peru. He lists his home address as Williamsburg, Va. Prior to his present position he was with Worthington Corporation of Harrison, N. J., in their international business division for 34 years. He established a sales company for Worthington in Argentina and eventually a manufacturing plant for local manufacture of their products. Joaquin has traveled extensively to all countries in South America, Cuba, Mexico, Panama, Canada, Turkey, France, Italy and Spain, as well as to several of the West Indies. He writes: "We are dedicated to the idea of promoting not only American products throughout the world, against the most severe world-wide competition, but also the American way of life. This we do in our living standards, customs, and habits, as well as example, but also the manner in which local businesses are organized and operated. This all goes quite a ways in dispelling the Hollywood created impressions of American life and the often undeserved epithets of "Yankee Imperialists." Practical, daily private and business living go at times much further than highly publicized government programs such as A.I.D. and Alliance for Progress in these countries." In Argentina he was an active member of the M.I.T. Club of Buenos Aires, where he met many M.I.T. men but none from the Class of '29. Joaquin writes that he has often met **Eric Bianchi**, who we hear is now assistant vice-president, control and meter group, Worthington Corporation, Harrison, N. J., where he has been relocated after 33 years with Mason Neilan in Norwood, Mass.

Romeo Guest writes from Greensboro, N. C., where he is president of Romeo Guest Associates, and a director of Sandhurst Mills, Inc., Hanes Properties, Inc., and the North Carolina Citizens Association, and United Industrial Constructors, Inc., and in his spare moments enjoys sailing and sail boats. . . . In Joliet, Ill., **Levon Seron** is a self-employed architect and structural engineer, active in the American Institute of Architects. He enjoys his work on the Joliet Zoning Board and Commission and looks forward to

working on the new school advisory board, all as a part of public service, which he guesses is sort of a hobby, and a good hobby it is. Levon hasn't run into any '29ers but asks "How is **Arnold Conti** these days?" . . . **Walter Key** makes his home in Indianapolis, Ind., and he is now retired from federal civil service, mostly in the Naval shore establishment. It seems well worth quoting Walter's views on life which he sets forth as follows: "My views on life that are relevant to professional education and experience can be summarized. Education should be for living as well as for working. People are a part of every act or decision, and the art of interpersonal relationships is the secret of leadership. Learning should never cease. Self-knowledge is vital. The element of chance can make or break the best plans. The old-fashioned virtues (honesty, integrity, etc.) are still valid because they exemplify or reflect human values proven over the ages to be compatible with humanity at its best. Engineering training needs to be more scientific in content; but the engineering, per se, of advanced scientific projects needs to be more practical." Walter's hobbies range from fishing, sailing, music and golf; and he looks forward to extensive travel in the very near future. In more quiet moments he enjoys reading anything that is worth the effort, from fiction to philosophy.

Ezra Hill, from Fort Wayne, Ind., is actively engaged as product engineer for General Electric in the design of high voltage power supplies and enjoys photography and does his own finishing. . . . **F. A. Fetvedt** is the manager of the rate department of Otter Tail Power Company in Fergus Falls, Minn. . . . **Mary Ann Crawford**, another of the fairer members of our class, writes that she is located in Chicago and is a self-employed architect, active in the American Institute of Architects and the Western Society of Engineers. . . . From Milwaukee, Wis., **Erl Mathiesen** writes that he has been with Cutler-Hammer since the summer of 1929 in the student course of the engineering department at first, but has been in manufacturing since 1933 and is now vice-president of manufacturing. He and his wife have deeply enjoyed Cutler-Hammer and Wisconsin, but look forward to New England for retirement. . . . **H. A. Lyke** is president of the Lyke Corporation in Oconomowoc, Wis., and enjoys hunting and fishing. . . . **Ernest Brown** is superintendent of technical service for American Oil Company in Casper, Wyo. Ernest returned to the Rocky Mountains after M.I.T. and started working for Standard of Indiana and has been with them for 34 years. He has preferred staying in the West and close to the mountains and his work has been very satisfying. Vacations have been spent with his family in the mountains of the west and Canada, and he enjoys big game and bird hunting, as well as fishing and hiking and movie photography.

Hunter Rouse is a professor and director of the Institute of Hydraulic Research at the University of Iowa and has done consulting work for the Navy, the Army Corps of Engineers, and a few private

firms. On graduation, Hunter went to Europe for two years as M.I.T. Traveling Fellow, returning to M.I.T. with a wife and a degree. He has taught successively at M.I.T., Columbia, California Institute of Technology and Iowa, where he has been for 25 years. He has lectured on all continents and traveled extensively in connection with research work, spending a year in France as a Fulbrighter (1952-1953) and another in Germany, Italy, France and England as N.S.F. fellow (1958-1959). Several of his books have been translated into French, Spanish, Russian, and Chinese, but he reports that even American royalties are low. Hunter writes that he saw **Howard Pankratz** at a high school reunion last year. Missed seeing you at the 35th, Hunter, and hope Dorothee is now feeling fine again. . . . We heard from **C. Brigham Allen** from Birmingham, Mich., where he is district sales manager of Reliance Electric and Engineering Company. . . . From Franklin, Mich., **Tom Dadson** writes that he is chief range engineer for Kelvinator Division, American Motors Corporation, in Detroit. Tom enjoys sports cars and presently he is restoring, piece by piece, in its entirety, a 1948 MG/TC, as well as short wave listening and radio construction. . . . **Charles Nord** lives in Louisiana, Mo., where he is self-employed as owner of the Nord-Buffum Pearl Button Company. Charles has been active on the boards of the Louisiana Building and Loan Association, the Bank of Louisiana, and United Fund of Buffalo Township. . . . **Bob Frierson** is assistant director of the Division of Water Control Planning for the Tennessee Valley Authority and lives in Knoxville, Tenn. . . . In closing this month's news, I would like to thank all of you who have been sending encouraging notes to your secretary and to remind those of you who have not yet sent in the questionnaire to please do so, it's not too late!—**John P. Rich**, Secretary, P.O. Box 503, Nashua, N. H.

'30

Plans for our 35th Reunion are shaping up nicely: It will be held at the Oyster Harbors Club in Osterville, Mass., on June 11, 12, and 13, and at M.I.T. on June 14, which is Alumni Day. A committee has been appointed for the final arrangements. As in the past wives and families are welcome. The approximate cost is \$60 per person, and this includes everything. Of course, we are looking forward to seeing as many members of the class attend as possible.

In an unwary moment last September your secretary agreed to act as chairman of a committee to arrange a dinner meeting at the New York Alumni Center on January 12, 1965, and in due course became aware of the manifold duties that devolve upon one who accepts such a position. The program, which was on Red China, was presented by M.I.T.'s Center for International Studies. Max Millikan, Director of the International Center, moderated a panel of speakers that in-

cluded Professors Lucian Pye and William Griffith from M.I.T., and William C. Foster '18, director of the U. S. Arms Control and Disarmament Agency. Although there were moments of doubt as to whether we would be able to achieve a respectable attendance, ultimately more than 300 alumni and guests showed up for the meeting. The Class of '30 rallied around in good shape. **Bob Armstrong** and his wife hosted. Mr. **Foster**, **Henry Pattison** and his firm (Benton and Bowles, Inc.) helped with the reparation of the notice of the meeting. **Les Steffens** set a record in respect to the number of people he persuaded to attend. **Morris Young** and **Lionel Pavlo** were among those present. . . . **Louise Hall's** Christmas greeting this year had enclosed a very interesting and detailed account of an archeological project at Winchester, England, in which she participated last summer. Unfortunately, the account is too long to quote in full. It appears that Winchester is of interest to archeologists for a number of reasons, among which is the fact that for a period of time after the coronation of Edward the Confessor, it was the capital of England. Apparently, the most significant work last summer was an excavation which revealed the central portions of the foundations of two Royal Saxon churches located side-by-side, one of which, the "New Minster," was the burial place of King Arthur. The superstructures of the two minsters were demolished by the Normans in the 11th Century to obtain stones for the present Cathedral. If any of you are interested in such matters, I suggest that it would be worth your while to obtain a copy of the full story from Louise. . . . **Wesley Wedemeyer** is president of two architectural firms in St. Louis: Wedemeyer, Cernik, Corrubia, Inc., and Planning and Construction Consultants, Inc. He is active in M.I.T. Alumni affairs and reports that in recent years he has seen **Everett Kroehler** and **Phil Holt**. He has two children: daughter Kathy, who graduated from Vassar in 1955, is married and has two sons; and son Danny, Princeton '64, who is teaching at the Sterling School in Craftsbury Common, Vt. . . . Changes of address: **Reginald Bisson**, Box 277, Laconia, N. H.; **M. G. Forero Benavides**, Carrera 10A #16-18, Piso 50, Bogota, Columbia; **Edward Pritchard**, 525 Price Drive, Watchung, N. J.—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, N. Y.; **Joseph Harrington, Jr.**, President, 1 Cherry Street, Wenham, Mass.; Assistant Secretaries: **Charles Abbott**, 26 Richard Road, Lexington 73, Mass.; **Louise Hall**, Box 6636, College Station, Durham, N. C.; **Ralph Peters**, 16 Whitestone Lane, Rochester 18, N. Y.

'32

Ed Nealand received this letter recently from your former class secretary, **Rolf Eliassen**, who is now professor of sanitary engineering at Stanford University. I am sure they wish to share this news with other classmates. Rolf writes: "I have not

sent you a newsletter for some time. My life here has been a busy and a very satisfying one. Our water resources program at Stanford has received tremendous support from the State of California, the U.S. Government, and from Stanford. We have an excellent new laboratory and many graduate students studying water quality control with us. It is so much easier to get support for water resources in the West because of the great significance of water to the economic development of this area. In our consulting work, I am the resident partner for the venerable Boston firm of consulting engineers, Metcalf and Eddy. They are very busy out here and have developed work which will support a staff of about 25 people. Major work consists of planning for the water resources and waste disposal of certain counties in California, most of which are bigger than several of the New England states. My good fortune is to be chief consultant on water quality management for the California Department of Water Resources. We are setting up a plan of operations for the gigantic California Water Project to assure the delivery of high quality water 600 miles to Los Angeles and San Diego in its transport from northern California on the Feather River all the way through the San Joaquin Valley and across the Tehachapi Mountains to the highly populated southland. We are also engaged as consultants on the development of a gigantic nuclear power and water desalination plant for southern California. The study is being made for the metropolitan water district of southern California by the Bechtel Corporation, and we are their consultants. I have been a consultant to the executive office of the President and to the Secretary of the Interior on water desalination, and have had the honor of preparing a report for President Johnson which he has accepted and adopted as his policy in the future of water desalination. For the past several years I have been chairman of the Committee on Saline Water Conversion of the American Water Works Association. This area of the country holds the greatest future for fresh water from the sea, and it is a great honor to be a part of the program. My family and I enjoy living in Palo Alto very much. This climate is conducive to an occasional golf game all year around, and I find this really quite relaxing, particularly when Stanford has one of the finest golf courses in this part of California. Some of my former colleagues at M.I.T. have visited me and played the course. Come on out! One of my sons, Tim, is a confirmed easterner. He is graduating from Princeton this June in aeronautical engineering. Our younger boy, Jim, is a freshman at the University of Redlands studying geology at that beautiful college in Southern California, only an hour's drive from Palm Springs. I hope to visit him rather frequently and enjoy some golf in that area."

Tom Sears bumped into **Joseph Welch, Jr.** at a party in December and reports that Joe is now director of development at Boston Evening Clinic at 314 Commonwealth Avenue, Boston, and is very enthusiastic about his new job. We have re-

ceived notification of the death of **Churchill C. Condie**, Course XVII, on July 19, 1964.—**Elwood W. Schafer**, Secretary, Room 10-318, M.I.T., Cambridge 39, Mass.

'33

Well, fellows and gals (haven't heard from any grandmothers yet, so the flower fund is intact), here we go again; not up to the usual perfection (?) this time, but something. . . . Please recall that I mentioned **Lynn Williams**, as running for Congress from the 13th District, north shore Chicago, and west a bit. Lynn made it with something to spare, as reported to us in the Sun-Times (Chicago), which paper also mentioned that they were supporting him. You already have a lot of Lynn's biographical material so we can omit that, but the paper went for Lynn in a big way. Although, to be introspective, I recall that President Roosevelt ran with practically no newspaper support, but made it regardless. This fellow Lynn must have it, as the voters said so, and in a usually predominately Republican district. On the same clipping, the Sun-Times has a bit about the 12th District where Representative **Robert McClory** was running against **John Clark Kimball**, Democrat, and the paper supported McClory. Now, and this enhances Lynn's victory, we find the paper picking for support a man from each party in two separate districts. So, they were picking the man, not the party. Good for Lynn. . . . That's all from the press this time, except a mention of **Art Hungerford**, whose story appears below, as Art wrote me. Art didn't mention, however, that he is and was, a pioneer in this educational television business. I admit that it is dangerous to admit being a pioneer in anything, as it dates one, solidly. This first part I am writing last, as I waited for the clippings, and it is now December 28, so Happy New Year, all.

Now come a few personals. **Art Hungerford** announced that he is not a very newsy guy, but came through with a rather nice, long, and interesting epistle. I will leave out a part which has already been published, but do hasten to let you folks know that Art acquired a master's degree at New York University which apparently opened the way for his entry into teaching. He has a top background for teaching, considering his long association with educational television in New York City, and at Purdue. Art is now an associate professor in the Penn State College of Liberal Arts, and chairman of the major in broadcasting. I have always been an admirer of the teacher, although I am sure that everyone, regardless of education, is not qualified to teach. It takes more than that and most of us do not have it. Art took what appears to be one half of a sabbatical, and spent one whole term touring Europe this fall, in a Volks Camper bus. We had a seven-passenger Microbus, Volkswagen for our trip in Europe last summer, and I

can assure one and all that Art made an excellent choice. He found that he had chosen the only way, with the possible exception of hiking, to get to know someone besides waiters and hotel clerks. He admits he found, during the camping, that he is not as young as he once was. So! Art's daughter is in her second year at Mt. Aloysius Junior College, and intends to transfer to Penn State next year. To Art, directly, you are in the same state as **Jim Turner**, but not exactly a neighbor, so you better allow a weekend for the trip, if you make it; 150 miles on 322 is no bargain, and the new Federal 80 won't help too much.

In the nick of time, Ol' **Cal Mohr** came through again, and do I need him! He gave me word that **Bill Pleasants** is commuting to and from Ireland, where Catalytic Corporation is building a plant. Cal got his information from the resident engineer who purchased a filter from Cal's outfit. . . . More about **Mal Mayer**, the world traveler, the joy of the master brewers. Cal says Mal might have been in San Antonio at a brewers' convention recently but also allows that Mal's picture did not appear with any that Cal saw. O.K. Mal, let's have it. Cal was to be in Houston February 7 for the meeting of the American Institute of Chemical Engineers. I have already told Cal, by mail, of a few of the faithful (?) living there. Perhaps he can stir them up by phone as my entreaties go unanswered! . . . Also via Cal we hear that **Walt Skees** added a room to his house on Green Turtle Key, the Bahamas. Seems to me that Walt will outgrow the little bitty Key if he doesn't stop adding. Now here is a bit of irony: Cal was to arrive in Houston the same day I was to fly out of Miami for South America on People to People Goodwill Business. He did not come right out and say so, but it would appear that he might come over to Florida, finding himself so close (Houston). Well, he could have driven over to see us, as it takes only about a week of the most uninteresting driving possible. Or he could fly it in two hours. But, no cocktail flag was up between February 7 and 27 while I was gone, unless Leona flew it herself, and she never has. I do hope Cal can make it while I am here, and any other of you fellows who are finding Florida the way I do—warm! For what it might be worth, we are located on A1A Highway, one and one-half miles north of the Hillsboro Inlet, and, the mailbox has an Angus bull on it, along with our name. Any intelligent fellow can find it, even an engineer. So, please drop in, and if I am not here leave a note of explanation about why I have not heard from you.

As I write, the change of addresses have just come in. Because most of you chaps cannot write, I put these address changes to the best use I can; I write about them. The following fellows have moved: **Joe Wetherell**, **Warren Daniels**, **Ed Rowell**, and **Leburton Webster**. How much moving done is problematic in some cases. Joe Wetherell has moved, it says here, from Kennedy Lane, to a Post Office box. Well, it takes all kinds. A word from you,

Joe, will let 800 men have the true story; otherwise you are living in a box. **Leburton D. Webster** has moved from Concord to Boston, and the address is that of the Felters Corporation. A rash assumption makes him either an employee or the company itself. A word from Brother Webster would set the record straight. I would really like to know as would others. I called on a friend in New York City a year or so ago who had bachelor's quarters in what he called a penthouse right alongside the elevator operating mechanism! What do Course XVIIers call the place on the roof where the elevator motors and cable drums are located? The other two have actually moved, **Warren Daniels** from Falls Church to Annandale, Va. Warren, I must know where the new place is. My map does not show it. And are you still with the U. S. Geological Survey? Also, **Ed Rowell** has moved from Media, Pa., to Wellesley Hills, Mass. I know where both places are, as I have friends in Upper Darby. But, why the move, Ed? Must be 1) a new job, 2) same job, different location, or 3) What? Do please tell us.

I write this particular part on Christmas Day and you remember I wished you all a Merry Christmas. I have not yet received the press clippings from the Alumni Office and I have only about 10 days to the deadline. Maybe you will enjoy shorter notes this time. Tell me soon if you like the shorter ones better!—**Warren J. Henderson**, Secretary, Fort Rock Farm, Exeter, N.H.

'35

Many thanks to **Edgar J. Staff**, 18 Williams Avenue, Cranston, R.I., who writes: "I am one of your adopted classmates at M.I.T. as I took most of my required courses for the doctor of public health in Course VII, with seniors of your class. I attended your 25th and enjoyed it immensely. I began my retirement January 1, 1965, after 50 years in public health and medical laboratories activities. I still retain my position as consultant in the Bacteriology and Clinical Laboratory with the Veterans' Administration area office in Boston and inspect the laboratories in the 25 hospitals in the New England and New York area. I feel that I owe a great deal to M.I.T. for my advancement in the field and enjoy the friendships I made among the 1935 members. I am sending you an article on my retirement published recently in the Providence Evening Bulletin. From this, if you see fit to do so, you may select some items of interest for my friends in 1935." And here are some of them: "Edgar J. Staff, who played with equal vigor against all-American Jim Thorpe and diphtheria, is planning for the last big run of his career—right out of the State Department of Health into retirement. Previously, his longest run was 70 yards for a touchdown while playing for the Providence Steam Rollers against the New York Gi-

ants in 1924. This isn't bad for a line-man. But the touchdown was called back because of a rules infraction. "Spike" Staff was the left guard for Brown University in the first Rose Bowl game in 1916, played in a driving rain before 20,000 spectators in wooden stands. He was line coach at Brown from 1920 through 1925 under Mr. Robinson. Then for eight years he was freshman coach under Tuss McLaughry. Dr. Staff likes to bowl, fish and travel. He collects stamps, too. The fishing is mostly fresh water down on Cape Cod. The retiring public health official is a widower. His wife was the former Edith Farnum. He has a daughter, Mrs. Harold E. Miller of East Greenwich; a son, Edgar F. Staff of Cranston, and two grandchildren. He is a fellow of the American Society of Microbiologists, the American Public Health Association and the American Association for the Advancement of Science. Numerous articles have been published by Dr. Staff on laboratory work, especially in the field of food poisoning." And there is lots more. We will have to catch up with you and some of those stories in June at our 30th, Ed. It was good to hear from you and we shall look for you at the Chatham Bars Inn.

News from hither and yon: **Leo H. Dee** is now living in Oklahoma City at 4709 NW 30th, after having moved from Fayetteville, N.Y. . . . **Jim Eng** has moved from Athol, Mass., and now resides at 157 Dayton Street, Sea Cliff, N.J. . . . The 17th Annual Fiesta in Mexico sponsored by the M.I.T. Club of Mexico is being held March 11-13. A number of '35ers attend. . . . It is reported that **Bill Barker** is on the move again and is going to be located in Oxford, Maine, at the Brown Paper Company. Bill, you and Mae had better be sure to come to the 30th and fill us in with your plans—and bring your golf clubs, too! . . . A number of our classmates serve on the Educational Council of the Institute. One of their responsibilities is interviewing prospective M.I.T. students. Among those serving are: **Gerry Rich**, Santa Cruz, Calif.; **John Ostlund**, Miami; **Charlie Debes**, Rockford, Ill.; **Bill Keefe**, Bettendorf, Iowa; **Walter Godchaux**, New Orleans; **Dexter Clough**, Bangor, Maine; **Prescott Smith**, Concord, Mass.; **C. H. Goldthwaite**, Weymouth; **Bissell Alderman**, Springfield, Mass.; **Bill Bagley** and **Tom Morrow**, Detroit; **Wilton Hawes**, Grand Rapids; **Charles W. Smith**, Plainfield, N.J.; **Bernie Nelson**, New York City; **Fred Tone**, Rochester, N.Y.; **Ed Loewenstein**, Greensboro, N.C.; **Jackson Taft**, Marion, Ohio; **Jack Brosnahan**, Hellertown, Pa.; **Appy Applegarth**, Plymouth Meeting, Pa.; **Bill Bates**, Pittsburgh; **Allan Creighton**, Williamsport; **L. P. Whorton**, Dallas; **Carson Brooks**, Richmond; **Art Anderson**, Tacoma; **Jack Ballard**, Milwaukee; **Alexandre Leal**, Brazil; and **David Truscott**, England. . . . See you in June. Sign up now and don't regret later!—**Allan Q. Mowatt**, Secretary, 61 Beaumont Avenue, Newtonville 60, Mass.; Regional Secretaries: **Edward C. Edgar**, Kerry Lane, Chappaqua, N.Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Edward J. Collins**, 904

Merchandise Mart, Chicago 54, Ill.; and **Gerald C. Rich**, 105 Pasatiempo Drive, Santa Cruz, Calif.

'36

Last month we reported on three members of the class, all Course VI or VI-A men, living in Schenectady and working for General Electric Company. Also living there, but not now working for General Electric Company is **Charlie Betts**, who is vice-president of the Hanson Construction Corporation. . . . **Pyam Williams**, who has been with the Robertson Paper Box Company in Montville, Conn., since 1946, has been elected vice-president in charge of engineering and research. . . . **Bob Gillette** writes from Barre, Vt., that Rock of Ages is digging rock out of big holes in Vermont, Oklahoma, Wisconsin and Canada under his direction and that he is still sailing a yawl out of Quisset on Cape Cod where he occasionally spots **John Bete** and his wife cruising in a boat which John built himself. Bob's daughter has graduated from Middlebury and his son is a sophomore at Dartmouth. . . . **Hank Lippitt's** year-end news letter is packed with interesting tidbits on all six pages but the real bombshell is on page six. On December 23, Hank and Miss Ruth Sonja Staub were married in Carpinteria, Calif., and after Christmas honeymooned in Hawaii. The bride is the daughter of Mrs. Wilhelmine Staub of Thun and Zurich, Switzerland. She has most recently been on the staff of the Latin-American Center at UCLA. Mr. and Mrs. Lippitt are at home at 501 North Rossmore Avenue, Los Angeles 90004. For Hank this seems like a fitting climax to a strenuous year with "business trips" to the Canadian Rockies, Mexico City, Holland and Switzerland. . . . The Alumni Register lists **William I. L. Wu** at 14 Rustic Lane, Green Farms, Conn., and **Richmond Eddy** at 171-50-107 Ash Street in Jamaica, N.Y. 11433. —**Alice H. Kimball**, Secretary, 20 Everett Avenue, Winchester, Mass. 01890.

'37

Harry B. Goodwin has been named assistant to the director, Battelle Memorial Institute's Columbus laboratories. A member of the Battelle staff since 1949, Goodwin has served in a number of research and administrative positions. Before assuming his new post, he was assistant manager of the metallurgy department at the Columbus laboratories. Harry has been closely associated with research on such materials as chromium, high-purity iron, molybdenum, and titanium. For three years, he assisted in the direction of the Titanium Metallurgical Laboratory, predecessor to the Defense Metals Information Center operated by Battelle for the Department of Defense. Before joining Battelle, Harry was engaged in molybdenum research and in the design

of arc-melting and high-temperature mechanical testing equipment at the Applied Physics Laboratory in Silver Spring, Md. Earlier in his career, he held metallurgical posts with Bethlehem Steel Company in Johnstown, Pa., and the Crown Cork and Seal Company, in Baltimore. He served in the Army during World War II, attaining the rank of lieutenant colonel. The author of numerous publications on metallurgical subjects, Harry is a member of the American Institute of Mining, Metallurgical, and Petroleum Engineers and of the American Society of Metals.

Curt Powell, Associate Professor of Marine Engineering at M.I.T., spoke at a recent meeting of the M.I.T. Alumni Association of Western Maine. . . . **Art Zimmerman** has been elected president of the Sales and Marketing Executives of Cleveland, Ohio. . . . **Bob Goldsmith** writes, "I am recovering from the recent opening ceremonies for the Verrazano-Narrows Bridge. Very satisfying to see the culmination of five years work. Ammann and Whitney, where I am an associate, was responsible for both the design and supervision of construction. I was co-in-charge of the tower design, and later, spent some very hot and some very cold days in the field."—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; **S. Curtis Powell**, Assistant Secretary, Room 5-325, M.I.T., Cambridge, Mass.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N. J.

'38

"Meriting high recognition for outstanding volunteer service, who, though the busy president of A. O. Wilson Structural Company of Cambridge, has devoted hundreds of hours in aid of the Salvation Army, is **Albert O. Wilson, Jr.**" This tribute to one of Al's many activities appeared in the Boston Herald's special coverage of the Salvation Army of Greater Boston. Citing him as a volunteer who had worked for years, quietly and effectively and always ready and willing to give a hand, to the hand that is stretched out to so many in need. "Now holding the important volunteer post of secretary of the Massachusetts Advisory Conference of the Salvation Army, he has long been a vigorous and capable volunteer for the Cambridge Corps, including service as Advisory Board chairman there. His immensely effective efforts for the Army are illustrative of the important role of advisory boards at both the state and community level in the furtherance of the programs of the humanitarian organization." It's a great accomplishment, Al! . . . **Ab Byfield** and I chatted on the phone this fall to clear up an item of mutual business interest, and Ab promised to put a few of his experiences in writing. "I spend my time as a sort of corporate salesman—we call it trade relations. Our year has been busy, but the personal highpoint was our trip to Europe last April. This time we went to Istanbul and visited the parents of our daughter-in-

law, Jenny. We had a marvelous and most interesting time and are all set to go back. On the way there we spent some time in Italy seeing things we did not have time to see in 1962, and on the return we explored Greece for the first time. David, our oldest son, completed his graduate year at Northwestern and now he and Jenny are in Minneapolis where he works for Honeywell and loves it. Our granddaughter Michele is the family's pride and joy! Peter, son number two, is a junior at Wisconsin interested in political science. Home and ruling the roost is our 13-year old, Anne."

Rus Coile, in a recent note to Don Severance, reported "I am still in the operations research business. After 15 years with M.I.T.'s Division of Sponsored Research in the Operations Evaluation Group for the Navy Department, I was transferred to the Franklin Institute of Philadelphia when the Office of Naval Research was asked to combine M.I.T.'s O.E.G. with another operations research group previously administered by the Institute for Defense Analysis." (Secretary's note: It is obvious that the first assignment to an operations research group is to figure out what it is doing, and the second is to figure out for whom it is doing it!) Rus continues, never expecting the previous irreverent insertion, "I am presently director of the Marine Corps Operations Analysis Group, one of the components of the Franklin Institute's Center for Naval Analysis. If you know of anyone who would like to try operations research on Marine Corps problems, please suggest they get in touch with me." . . . By a quirk that must be more than alphabetic juxtaposition, **Peter Cole** is now an associate of Rus' at Franklin Institute and has also received a promotion. Pete is director of the Institute of Naval Studies, which works alongside the Operations Evaluation Group and the Naval Warfare Analysis Group at the Institute's Center for Naval Analysis. The I.N.S. concentrates on long-range Navy problems. Dr. Cole had been vice-president for research at Analytic Services, Inc. since 1958, where he had been responsible for scientific and technical planning of research programs in support of the Air Force. Earlier he was acting director of the Scientific Analysis Office at Melpar, Inc. He has also served as operations analyst with the Atomic Warfare Team of Headquarters, Operations Analysis, U. S. Air Force, and with the research and development board of the Department of Defense.

Albert Stone, who recently passed to others the editorship of the Johns Hopkins Applied Physics Laboratory, Technical Digest, continues to write for that journal. In a recent article "Beam-Plasma Interactions" for which he was a co-author, this lucid summary of frustration appeared. "All frontal assaults on the problems have foundered, in essence because, given enough time (and one second is plenty of time on the atomic scale), the plasma has always found a way to organize the myriad of collective modes of motion of which it is capable in such a way as to cancel out the confining field in some vulnerable spot and to escape through

the breach. After a frustrating and often embarrassing series of failures, the frontal assault has been abandoned. Instead, hopes for success are now pinned on, first, patiently learning to unravel these plasma modes one by one, and then finding ways of preventing the plasma from utilizing them to escape." . . . **Joe and Mary Kotanchik**, along with their younger son, Joe, were proud parents at the graduation of their son Jim at the formal ceremonies of June 1964. Jim is also a Course XVI product. Joe is assistant chief, systems evaluation and development division, NASA Manned Spacecraft Center, at Houston, Texas. And after their son's graduation what took second place on their priorities? Why sure, a visit to the World's Fair and the chance to learn about the world of the future! . . . "N.C.S.L. Calibration Procedures Laboratory" is the title chosen by **Howard Britton** for a paper this fall on the establishment of a library of calibration procedures for electrical, mechanical, and physical calibration standards and measuring devices. Howard has been enmeshed in these activities as head, facilities instrumentation group, at Cal. Tech.'s Jet Propulsion Laboratory.

Eric Reissner, Professor of mathematics at the Institute, has been awarded the Theodore von Karman Medal by the American Society of Civil Engineers with the citation "for noteworthy contributions to the theory of plates and shells, and for his outstanding papers on these subjects."

. . . **Arthur Tingley** has been made vice-president in charge of technical service and development for Madison Throwing Company. Madison Throwing is "the world's largest processor of regular and stretch nylon yarns for the hosiery, weaving, and knitting trades," with plants in Madison, N.C., and Milledgeville, Ga.

. . . **John Mahoney**, whose appointment as director of product development and service laboratories for Merk and Company we reported recently, has been engaged in some international activity that we'd like to call to your attention. He has been chairman of the Food Protection Committee of the National Research Council. He served as U.S. delegate to the W.H.O./F.A.O. Conference on Food Additives in Geneva in 1955, as a member of the W.H.O./F.A.O. Conference on Food Additives in Rome in 1958, and was the U.S. speaker at the International Symposium on Food Additives in International Trade in London in 1962.

Donald Robbins, Jr., has been appointed head of the Singer Company's new industrial products division. He will have line responsibilities for the production, development, manufacture, U.S. marketing, and worldwide distribution of Singer industrial sewing machines and allied equipment. Don has been a member of the board of directors since 1954, vice-president since 1955, and treasurer since 1960. He was responsible for the company's marketing operations in Europe from 1955 to 1960. . . . **Reeves Morrisson** has been named assistant to the vice-president and chief scientist of United Aircraft Corporation. He will be a member of the corporate advanced planning staff, specializing in commercial applications of

company technologies. Previously as project engineer of the Connecticut operations at Pratt and Whitney Aircraft, he has been responsible for the planning and co-ordination of major new research and development programs, including the use of turbine engines in industrial and marine applications, and applications of the fuel cell. . . . "**Peter deFlorez** is one of the best-known figures in bookbinding," says a challenging note! After eight years in the aircraft industry, Pete moved onto a more challenging frontier at the engineering department of Doubleday, to design its modern, high-speed plant in Hanover, Pa. He then founded DeFlorez Company, specialists in book manufacturing machinery. Later the firm became a wholly owned subsidiary of Miehle-Goss-Dexter, Inc., and has now been named M.G.D. Research and Development Corporation.

Harry Weese was the 1964 recipient of the Brunner Memorial Prize in Architecture, awarded by the National Institute of Arts and Letters. The citation and \$1000 prize are awarded to an American for the promise he has shown in contributing to architecture as an art. Arnold has had his offices in Chicago since 1947. Among his most important works are the U.S. Embassy and apartments in Accra, Ghana; Arena Stage, Washington, D.C.; and the St. Thomas Episcopal Church in Menasha, Wis. A 16-page feature in the May, 1963, issue of the Architectural Record presented a survey of some of his designs.

. . . **Ty Shih-Weng Shen**, '68, of Great Neck, N.Y. is the son of **Tseng Yin Shen**. T.Y. had said, in *Technique Revisited*, "I hope that Ty will share my enthusiasm and will make the grade at M.I.T." It's a pleasure to see that these hopes have come to pass! . . . With sadness we note the passing of an M.I.T. great—"Doc" Johnson who mended countless muscles, and not a few souls as trainer and physiotherapist in Barber Field House. "Doc" Stanfrid K. Johnson was one of those warm individuals, of whom M.I.T. has so many who make the word "Institute" a private jest. He had a wonderful way with the massage and heat lamp, aided I'm sure by that proprietary liniment he concocted, laced with methyl salicylate and liberally applied to every tensed and charlie-horsed area. Matter of fact, Doc dispensed this wide-spectrum emollient for use off the premises, noting that it always seemed to work better after aging in a graceful (empty) whiskey bottle! My own athletic accomplishments were in areas Charles Atlas did not deign to touch, and I was a frequent beneficiary of Doc's practice. Became thoroughly familiar with the kneading of muscles, and with Doc's facility at putting new heart into a discouraged contestant, new resolve into a flagging team, and even new strategies into a lagging game. All it takes is the combination of warm wintergreen and a Swedish accent to take me right back. Doc's son Stanley '36 is with U.S. Steel in Pittsburgh. A misreading of the numerals brought this note to me rather than to Alice Kimball '36. It's coincidences like this that give me a chance to say, Doc, your greatest memorial is in the memories of a whole generation of Tech

'39

The regular column *Individuals Noteworthy* in the January Review carried the promotion of **Manning Morrill** to the presidency of Cryovac Division of W. R. Grace Company, as did this column. . . . Also mentioned there was the election of **Isaac B. Venable** as a director of Rio Tinto Dow Limited. Here's more on that one, from a news release from the Dow Chemical Company: Budd Venable is the Dow Chemical's manager of nuclear materials. Rio Tinto Dow, a producer of refined uranium and thorium products at Elliot Lake, Ontario, is owned by Dow Chemical of Canada, Ltd., and Consolidated Rio Tinto Co., Ltd. . . . Here's an interesting job change item taken from the annual Christmas letter of **Fred** and **Eugenia Cooke**. As we had learned from Fred at the reunion, he was planning to retire voluntarily from the Navy at the end of 1964. Now, here is Fred's news, announced after many months of careful searching for the right connection: he will be with **Frederic R. Harris, Inc.**, consulting engineers, whose home office is in New York. Following a two-month familiarization period, Fred expects to be assigned to one of Harris' engineering organizations in the European or Middle Eastern area. For the **Cookes**, that will mark an interesting and challenging beginning of a new life, following 24 years of devoted engineering and administrative service with the United States Navy. . . . As a final item to this month's short column (because very few of you made any news this month, or if so, you've been keeping your light under the proverbial bushel) the *Simmons College Bulletin* for November carried a photo and story about **Robert W. Pratt**. Bob has accepted the national chairmanship for the 1964-1965 Parents' Fund of Simmons. Bob's interest in Simmons is two-fold: his wife **Parmys** is an alumna, and their daughter **Andrea** is now a junior at the college. The **Pratts** live in Manchester, Conn., and Bob is assistant chief engineer of the Pratt and Whitney Aircraft Division of the United Aircraft Corporation, in East Hartford.—**Oswald Stewart**, Secretary, 3395 Green Meadow Circle, Bethlehem, Pa. 18017

'40

The first news is from **Ray Keyes** who has kindly consented to write a column of reminiscence for the 25th Reunion Book. Ray writes: "Your request that I write a column of reminiscence is priceless. Do you realize that you are addressing it to a person who, when at M.I.T., was called 'illiterate' by two English professors! It is very likely that 25 years out of M.I.T. has done something for my illiteracy. Be-

ing that you believe so, I agree to do the column. Now that you know what you are getting into, shoot the stuff to me, and I shall get on with the job." Ray also sent along a copy of his annual Christmas letter: "Dear Friends: Hearty Holiday Greetings via our 13th annual Christmas letter. We hope you are all hail and healthy and remain that way for many years to come. We would guess that most of you, who are men, dreamed of some day being on a ranch—raising cattle, riding the range and fighting rustlers, just like it was in the old days in the grade B western. This is probably most true if you happened to be an eastern boy. This year we came as close to a ranch as we expect to get. Why right now out on our quarter acre spread we have two head—one just came yesterday, 9 A.M., via the other. Yes, we got here a two head herd of sheep and they are woolly, the boys are the wild ones. The ramrod of this here outfit is **California Tim** and his brand is 4 H. Now this ain't all we got; there are four head of Peking duck roaming our range. There is never any trouble rounding them up. Just yell, 'Here duck, duck,' and throw out some food and see them come waddle up. We have rustler trouble: earwigs and mice. The ducks take care of the earwigs and lazy Gidget, our cat, takes care of the mice. On our crew we have the bunkhouse boys, **Court** and **Greg**. Court has moved out of Cub Scouts as **Greg** has moved in. Court, now a Boy Scout, is doing fine. Oh yes, Ray has moved from assistant cubmaster to cubmaster, and with **Greg** he will be in cubs for three years. Court and Tim are becoming such good pianists that we even enjoy their practicing. At Court's request we got a guitar, adding further to our musical horizons. Greg, our scavenger (he loves the city dump) is such a skilled craftsman that he can create a model for a four masted square-rigged vessel from half a walnut shell, six tooth-picks, little squares of paper, thread, and glue. **Kristin**, our little dancer, is adding songs to her routine. In spite of her talent pointing toward the entertaining field, and possibly a Senate seat from California, she says she wants to be a nurse and make lots of money. Virginia should correct that misconception. Virginia is devoted to expanding and preserving beauty in our community. She helps the Pleasanton Women's Club build a park for children. We celebrate Christmas with our new Dodge passenger van. We miss our old 1957 Chev which served us well, but there is nothing like a new car. Ours is no beauty, but it is spacious. When driving it you sit in a high commanding position, just like a bus driver. **Kristin** considers it a nice new playhouse. A journey east is planned with it for early next summer. Dad is still a gymnast and is coaching youngsters 2 years old, and above, one night a week at the local high school and practicing a little too. The young ones love it and so does he."

Karl Feters, who is national president of the American Institute of Mining, Metallurgical, and Petroleum Engineers and vice-president in charge of research for Youngstown Sheet and Tube Com-

pany, discussed the student enrollment problems at the A.I.M.E. meeting in Cambridge on December 7. . . . **Gus Norton** has been appointed plant manager of the Wilmington, Del., plant of the Bond Crown Division of Continental Can. Gus has been with Continental since 1947, starting as an industrial engineer. Previous to his present assignment, he was manager of the glasswares manufacturing plant in Clarksburg, W. Va. **Ed DiGianantonio** is the new director of marketing for anti-submarine warfare and oceanography of Bunker-Ramo's Corporation in Canoga Park, Calif. Previously Ed had been with the Raytheon Company after retiring from the Navy in 1954. . . . Another reminder that the reunion is not too far away. Save June 12-14 for a date back at Tech. Also, don't forget your contributions to the Alumni Fund to make our 25th Reunion gift a record breaker.—**Alvin Gutttag**, Secretary, Cushman, Darby and Cushman, American Security Building, Washington 5, D.C.; **Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge, Mass.

'41

The only item of news received for this month's issue is that of the recent election of **William K. Hooper** to the board of directors of the Aluminum Association at its recent annual meeting. Bill has been a member of the association since 1956 and for the past two years has served as chairman of the Aluminum Foil Division. The Aluminum Association includes among its members all of the U.S. primary producers, major producers of mill and semi-fabricated aluminum products and principal smelters and foundries. Bill is senior vice-president of Republic Foil Inc., 55 Triangle Street, Danbury, Conn. . . . We would like to emphasize again the need for your help in reporting activities, grievances, suggestions, accomplishments, experiences, etc. of the Class of '41 members. This column is the proper and efficient medium for reaching the class. So please send news clippings concerning yourself or other classmates, letters or postcards carrying news items for publication in this column to any one of the persons listed.—**Walter J. Kreske**, Secretary, 53 State Street, Boston, Mass.; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh, Pa.; **Everett R. Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree, Mass.

'42

Curt Buford has been president of the Pittsburgh and Lake Erie Railroad and a member of the board of directors since January 1. Curt was named executive vice-president of the railroad last Septem-

ber after a four years' stint with the Association of American Railroads. Prior to that he was with the New York Central Railroad which controls the Pittsburgh and Lake Erie Railroad. He follows in the footsteps of his father who was a railroad president and an M.I.T. graduate and of the now retired president of the Pittsburgh and Lake Erie Railroad, John Barriger, '21. . . . Some of you might be interested in reading an article which **John Reed** wrote for the Advanced Management Journal. It was printed in the October, 1964, issue and is entitled "Some Thoughts on Business Objectives." According to the biography accompanying the article, John is division director of business planning at the Columbus (Ohio) division of North American Aviation, Inc., and has been active in the aircraft industry for more than 20 years. Prior to joining North American he designed missiles for Glenn L. Martin and worked as a flight engineer for Pan American. . . . **Bob Rines** sent me a clipping which told how he has recently received a patent for a device which is useful in detecting submerged submarines. The article says that Bob "holds about 40 patents, mostly for electronic devices. A spokesman for inventors and advocate of innovation, he has been critical of managerial indifference to creative ideas and creative personnel."

I have received an unhappy notice that Captain **William R. Franklin** died last June. He was a graduate student in Course XIV with us. I have no further details. . . . I have a clipping which states that **Walter J. Robbie**, general manager of Eaton Paper Corporation, has been named to the Pittsfield General Hospital board of directors. Walt came to Eaton about five years ago, was elected a vice-president in 1960 and a director in 1963. . . . **Charlie Speas** forwarded a letter he had received from **Bob Imsande**. Bob lives in Mt. Vernon, Ind., and while having nothing spectacular to report he gives every evidence of leading a full and happy life with a wife and two teenage daughters, a golf handicap which keeps getting lower, and all of his original hair with no grayness. . . . My final item concerns **Bob Howard** who called me when he was in town over New Year's. As reported in this column some time ago, he was a professor at the Municipal University of Wichita. In 1963 the student body numbered some 6,600 and the state of Kansas took it over. One year later the student body numbered 9,400. Unfortunately, when the state took over, it froze faculty salaries and refused to add any new faculty to the staff. Because of the increase in the student body, faculty teaching loads went up in a completely unreasonable way. In Bob Howard's case there were two days a week when he had to teach from 8 A.M. to 10 P.M., with proportionate increases on the other days as well. This and other problems just got too much for Bob, so he up and quit and is now looking for a new position. He is a dedicated teacher who would like to spend half his time teaching undergraduates, with the other half divided between teaching graduate students and research. I am sure that with the current demand

for metallurgists and his broad background, he will have no difficulty in locating a suitable position.—**John W. Sheetz**, Secretary, Harvard Business School, Soldiers Field, Boston, Mass. 02163.

'43

Carl O. Carlson has been named district manager of the San Francisco office of the engineering division of the Associated Factory Mutuals. The office is located at 1001 Argonaut Building on Sutter Street. He has been employed by the Factory Mutuals since 1947, most recently as a district manager of the Detroit office. The Associated Factory Mutuals is comprised of seven member companies. The system has safeguarded America's industrial might since 1835; presently over half of the 500 largest industrial concerns in the country are protected from property loss through the system. Combined insurance in force exceeds \$90 billion. . . . I received a letter in December from **Eliot Payson**, which I pass along to you with pleasure: "My move from Englewood (a suburb of Denver) to Denver was occasioned by my marriage to the former Mary Ricketson of West Hartford on September 26. We bought a nice old house in Denver and there is no geographical significance to the move; I just moved out of my bachelor quarters. I am still employed by Martin-Marietta after 16 years in the missile business. I am head of a systems engineering section at the Denver Division. Extra-curricular activities include skiing, hunting and camping. I am general chairman of the American Astronautical Society's national meeting on "The Unmanned Exploration of the Solar System," to be held here in Denver, February 8-10. Co-sponsored with the astronomers, the geophysicists (A.G.U.), the biologists (A.I.B.S.), the I.E.E.E. and the A.I.A.A., we expect about 1,000 people and some well known speakers. I am busy, as I have been ever since I joined Martin after getting my M.B.A. at Harvard in 1948. We have an active M.I.T. alumni group here, and hope classmates will make themselves known when they are in Denver."

Larkin T. Wyers, Jr., who received his master's degree in chemical engineering with our class, was named manufacturing production manager of the dacron manufacturing division of DuPont's textile fibers department. He joined DuPont in 1946 as an engineer at Waynesboro. . . . A clipping received from the Delaware Chemist's Bulletin brought us up to date on another classmate, **Eugene E. Magat**. He joined nylon research at DuPont in 1945, after receiving his Ph.D. in organic chemistry at M.I.T. He is presently a research fellow at Carothers Research Laboratory.—**Richard M. Feingold**, Secretary, 266 Pearl Street, Hartford, Conn.; **John W. McDonough, Jr.**, Assistant Secretary, 525 North Lincoln Street, Hins-

dale, Ill.; **Christian J. Matthew**, Assistant Secretary, Research Specialties Company, 200 South Garrard Boulevard, Richmond, Calif.

'44

This set of notes will be in the order of catching up. It seems that things got too busy around the Heilman diggings, with the result that there haven't been any '44 notes for two months. My "excellent" filing system indicates that there have been many clips and notes piling up that merit mention. You may note, however, that some of them are not as new as some of the other news, and that is because the last two class notes were devoted entirely to the class reunion. . . . An interesting note came in this summer from the secretary of the Wellesley Class of '43, **Barbara Smith**. She had been going through Cleveland, and noted in the Cleveland Plain Dealer a piece on **Joe Shrier**, XV, so she clipped it and sent it to me via the Institute. The article notes that Joe was co-chairman of the National Thistle Championships which were held last fall. In addition to this honor, Joe has recently moved from the field of aluminum sales to the field of securities sales, where he has become a specialist on options against stock certificates. Joe lives on the west side of Cleveland, and he and Dotty have three sons ages 9, 6 and 3. . . . A note from Whitworth College indicates that **Gabriel E. de Roeth**, X, represented the Institute at the inauguration ceremonies of the 13th president of that college. Gabriel, who is president of Western Plastic in Spokane, is also active as an educational counselor for M.I.T. A program was held at the Institute last fall for visitors, and one of the program leaders was Dr. **Bill Murray**, VIII, who spoke on "Ship Protection." Bill is head of the structural mechanics laboratory, David Taylor Model Basin, in Washington, D.C. . . . A note came in from **Sten Hammarstrom**, II, who founded Hammarstrom Controls Company in March, 1964. He reports: "As you can see by the letterhead, I am in business for myself as a manufacturers' representative, specializing in instruments and controls. At the moment I have several lines, and am looking for one or two more. It is a bit of a struggle getting a business like this rolling. I talked to **Si Bessen**, I, who has S. X. Bessen and Associates. He has about eight lines now, including **Bill Boschen's** company, and has one or two fellows working for him. All his lines are geared to sewage and water or industrial waste."

Last May, these notes carried a squib on the activities of **George Wilson**, VI. He decided to drop me a note bringing in news of other classmates: "**Walter Gray**, VI, is working for Honeywell's Electric Data Processing Division in Boston, the Needham plant. He is on the division staff and even gets an occasional trip to Europe. . . . When I visited **Jim Angell**, VI, a couple of years ago, he was teaching at Stanford University and lived in Portola Valley, Calif. . . .

The **Linville** brothers, **John** and **Bill**, both doctors who were instructors in M.I.T.'s electrical engineering department, are also at Stanford. **Jim Angell** received a doctorate before leaving M.I.T. circa 1950 as did the **Linville**s." . . . A note from the office of the Dean of Graduate Studies of Case Institute of Technology advises that **Dick Cavicchi, II**, has been awarded a master of science degree in engineering. **Dick** has apparently been doing some heavy academic work in addition to his work at the NASA Flight Center on the west side of Cleveland. . . . **Gerald Dennehy, II**, dropped me a note from Setauket, Long Island. He advised that he had joined the Institutional Research Department of W. E. Hutton and Company, and now commutes to Wall Street. I had lunch with **Gerald** and he brought me up to date on his outside activities which include founding the local lightning yacht club, racing lightnings and cruising Long Island Sound. The **Dennehy**'s moved to Setauket in order to have some wide open spaces around them. The place has mushroomed since 1956 and now boasts a branch of New York State University. So, it has become a college town. That about winds this up, except to note that if you are going through New York sometime, why don't you give me a call, at my office, 867-6500. Your Secretary always needs news.—**P. M. Heilman**, Secretary, 30 Ellery Lane, Westport, Conn.

'45

Your 20th Reunion at Wychmere Harbor Club in Harwichport is just three months away. Please let us have your registration as soon as you know you will be attending. As of December 15, **Bill Meade** had received 56 questionnaires with some 42 classmates paying dues. As of this same date the following 18 classmates had paid their registration fee: Class Agent **Bill** and **Betty McKay**, Secretary **Clint** and **Fran Springer**, **Chris** and **Jean Bolland**, **George** and **Jan McKewen**, **Charlie** and **Nancy Hart**, 25-Year Gift Chairman **Max** and **Trudy Ruehrmund**, President **Dave** and **Mary Trageser**, **Spence** and **Elaine Standish**, **Bob** and **Carol Welch**, **Ed** and **Elinor Stoltz**, Reunion Chairman **Bob** and **Anne Maglathlin**, **Tom** and **Louise McNamara**, **Jim** and **Carolyn Pickel**, **Bill** and **Elaine Shuman**, **Doug** and **Mildred Esten**, **Nick** and **Rosemary Mumford**, **Bert** and **Blanche Bosler**, **Tom** and **Alice Markey** and **Bill Meade**. In addition, the following plan to attend, although their registration fee was not forwarded, (We will get you the next time around!): **Charlie** and **Janet Patterson**, **Bob** and **Ginny Hildebrand**, **John** and **Martha Cullinan**, **Andy** and **Anne Marocchi**, **Tom** and **Besty Hewson**, **Warren Miller**, **Frank** and **Tilly Gallagher**, **Bob** and **Ruth Gould**, **Jeff Jeffries**, **Bob** and **Nina Wilson** and **Guy** and **Betty Gil-eland**. You didn't see your name! Well, it means that your acknowledgment was not received before Christmas or you have forgotten to return it! Unfortunately,

there is a minimum of six weeks between the time I write these notes and the time you receive them. This six-week lead time also makes it difficult to foresee the timing of your Reunion Committee's next mailing. I do feel safe in stating, however, that the second and last general mailing will arrive within the month. Please sit down and fill out the class questionnaire and let us know whether you will be joining us at the Cape in June.

The questionnaires received this far will provide you with news in the months to come. It now appears that **Bob Hildebrand** of Seattle is ahead in the long distance contest; however, maybe **Sheridan Ing** of Honolulu will make the trip. Arrangements can and will be made for children. We would expect, and hope, that anyone traveling a long distance could bring their family. All those at Wychmere five years ago will remember **Jim** and **Mary Jo Hoaglund**'s wonderful family. Unfortunately, the **Hoaglund**s will not be with us as **John** graduates from high school Reunion weekend. . . . **Tom Markey** has suggested that we ask that you bring along your golf clubs for he feels certain that Eastward Ho will be a worthy challenge. I have just reviewed the class records or questionnaires received and must conclude that we may have in some instances misinterpreted your instructions! If you are coming, please let us know! . . . The October issue of Military Engineer reports that **Don Ostrower** is a partner in the consulting engineering firm of Vollmer Associates, which specializes in the design of interstate highways, parkways and large scale public recreation projects. **Don** and **Roberta** live in Roslyn Heights, N.Y. with their two daughters **Penny** and **Jill**, 14 and 13 respectively. . . . **Bill Humphreys** is now with Fenwal, Inc., in Ashland, Mass. . . . **Bill (William G. Jr.) Martin** has moved to Winnetka, Ill., after many years in West Hartford, Conn. . . . **Jay Forrester** continues in the data processing-computer limelight. The October issue of Data Processing Digest reported on an experiment conducted by **Jay** at Sprague Electric regarding violent oscillations in inventory, production, personnel and customer orders.

The January 7 issue of The New York Times contained a lead article on one of our old friends, **Curtis Canfield** (Lt. U.S.N.R.). **F. C. Canfield**, Dean of the Yale School of Drama since 1955, will leave that post July 1 to devote himself to teaching and directing. Mr. Canfield has a heart condition that is forcing him to give up the administrative burden at age 61. Back in our V-12 days—21 years ago—the Lieutenant would have been our current ages. Do you suppose today's 20-year-olds hold each of us in the same light?—**C. H. Springer**, Secretary, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York, N.Y.

'46

Here is one for **Ripley**, and **Balfours** should be interested, also. In the summer of 1945 **Bill Jackson**, **Ray Brown**, **Glen**

Dorflinger, **Roger Sonnabend**, **Jim Craig**, **Bob Spoerl**, and their dates were on a beach party at Ipswich, and **Bill** lost his class ring in the sand. It was long ago given up for lost, and then last spring, an amateur treasure hunter, combing the beach with a metal detector, came upon it below the high water mark. He sent it to **Bill**, and **Bill** reports that it is in perfect condition after all those years in the abrasive sand under the pounding surf. When **Bill** is not vacationing in the Virgin Islands he lives at 910 North 27th Street, Allentown, Pa. . . . We have a few address changes to report. Professor **Edward H. Bowman** has moved from Duxbury to 67 Lowell Road, Wellesley Hills, Mass. **Stuart D. Grandfield** has moved from Burlington, Mass., to 550 Baker Pass Road, Montecito, Calif., and **Richard J. Steele** has moved from Los Angeles to 15519 Talbot Drive, La Mirada, Calif. For those who have not written lately, mine is still the same.—**John A. Maynard**, Secretary, 25 Pheasant Lane, North Oaks, St. Paul, Minn. 55110.

'47

Max T. Weiss has been named general manager of the Laboratories of Aerospace Corporation, El Segundo, Calif. Born in Hungary, he did his undergraduate work at the City College of New York and received his advanced degrees from M.I.T. Aerospace Corporation supplies technical management, advanced planning and research for United States ballistic missile and space programs, principally for Air Force Space Systems and Ballistic Systems Division. . . . **Dr. Edward M. Bennett**, head of Mitre Corporation's information sciences department, was appointed executive manager of the Second Congress on the Information System Sciences that was held recently at Hot Springs, Va. As with the first congress, ideas were exchanged concerning the future development of automated military information systems. . . . I was happy to learn that **Robert W. Peach** has been responsible for the organization and management of the quality assurance department at Sears, Roebuck and Company since 1954. This department is responsible for monitoring the quality of products to meet or exceed customer expectations. . . . **Thomas Hadley**, a real estate broker in Cambridge, died recently at the Massachusetts General Hospital. He received his master's degree in city planning in 1947. . . . I received some notes on the activities of **Carl V. Nitze**, of Rochester, N.Y. He is a member of the board of governors of the Genesee Hospital and chairman of the building committee. He is a director of the Hillside Children's Center and Family Service Inc. A member of the Rochester Chamber of Commerce, he is a past vice-president and a former director of the Rochester Jaycees. . . . **Ju Chin Chu**, '46, Professor of Chemical Engineering at Brooklyn Polytech, has recently been elected to Free China's top research institute. He has more than 70 papers and

patents to his credit in the chemical engineering field. . . . Now for some address changes: **J. Bryant Williams, Jr.**, P.O. Box 1323, Alexandria, Va.; **Robert L. Seidler**, 6 Plymouth Road, Summit, N.J.; **Robert E. Oppenheimer**, 1581 Coventry Road, Cleveland, Ohio; **Dr. Jerome R. Cox, Jr.**, 415 Wicksworth Lane, St. Louis, Mo.; **Mrs. Winifred Bennett Cornica**, 1512A South 56th Street, El Cerrito, Calif.; **Judson Williams**, 725 North Fifth Street, Sunbury, Pa.; **Richard A. Scheuing**, 37 Quaker Path, Cold Spring Harbor, N. Y.; **Marcus W. Saxman**, 10 Greenridge Park, R.D. 8, Greensburg, Pa.; **Clinton C. Moore, Jr.**, 6336 Maple-ridge Drive, Cincinnati 27, Ohio; **Harold Birnbaum**, P.O. Box 1423, Tehran, Iran; **John E. Bartelt**, 5047 Glenbrook Terrace N.W., Washington, D.C.; **Robert F. Athow**, 556 Fifield Street, Chula Vista, Calif. That's all for now.—**Martin M. Phillips**, Secretary, c/o VESTAR, Inc., Hickory Drive, Waltham, Mass.

'48

Although you are reading these notes in March, we are plinking them out on our trusty typewriter this second week of January of a new year which we trust will be filled with health, happiness and prosperity for all of us. We hope sincerely that many of you have resolved to write your class secretaries at least once a year so that your classmates can be kept posted of the latest developments in your lives and careers. You know press clippings can be less than a trickle at times and "No News—No Notes." Speaking of a dearth of clippings, this month is a good example—just three! . . . **John W. Hawkins, XV**, has been named assistant to N. B. Ingram, vice-president and general manager of marketing at Sunray DX Oil Company. John will be responsible for planning, budgeting, economic analysis, and co-ordination of methods and systems improvement activities for marketing. Formerly manager of the management systems department, John joined Sunray DX in 1956 as manager of planning and development for Mid-Continent Pipe Line Company. In 1959, he was named manager of planning and co-ordination for the Sunray DX supply and transportation department. He was appointed chairman of the company's administrative planning committee in 1962 and was named manager of the systems department in 1963. As busy as he seems to be, John has still kept up his outside activities. Besides membership in the Oklahoma Society of Professional Engineers and the National Society of Professional Engineers, he is a past president of the Tulsa chapter of the American Institute of Industrial Engineers and is presently an officer and a director of the Kiwanis Club. . . . Among the recent releases from Birdland is one concerning **Robert L. Stern, X**, who has been appointed chief of the Office of Industrial Services at the National Bureau of Standards, U.S. Department of Commerce. Bob is responsible for the promotion of cooperative industrial research, for

the expansion of the research associates program at the bureau, and for finding means to increase the pertinence of N.B.S. programs to the needs of industry. Prior to this appointment, Bob served as acting chief of the N.B.S. Textiles and Apparel Technology Center. In 1962 and 1963 he was special assistant to J. Herbert Hollomon, Assistant Secretary for Science and Technology, Department of Commerce. In that post, Bob evaluated the utilization of technology in industry and explored opportunities for new relationships between government and industry in this area. From 1959 to 1962, he was manager of development with Bolt, Beranek, and Newman, Inc., where he was responsible for the licensing and commercial development of the company's inventions. From 1953 to 1959 he was a chemical economist and assistant manager of the Western Division of Arthur D. Little, Inc. **Joseph S. Stoutenburgh, VI**, formerly assistant to the vice-president and general manager of the Tecon Corporation, Dallas, Texas, has joined Sperry Rand's Univac Defense Computer Systems Division in St. Paul, Minn., as senior systems engineer on the staff of Gerald G. Probst, director of defense engineering and research and development. During the last five of his 17 years of naval service prior to joining Tecon in 1962, Joe served in the Navy Bureau of Ships as project officer for the Naval Tactical Data System, which included the complete responsibility for the N.T.D.S. technical planning and direction. This tour of duty earned Joe the Legion of Merit, highest peacetime award given by the Navy to officers of less than flag rank. Prior to completing his undergraduate work in electrical engineering with our class, Joe was graduated from the U.S. Naval Academy in 1945. Later he served as a member of the department of electrical engineering faculty at Annapolis from 1954 to 1957. He held the rank of commander at the time of his resignation in 1962. A native of Philadelphia, Joe now resides at 7449 West Shore Drive, Edina, Minn. . . . This past week we received the new edition of the Alumni Association Directory and in scanning through it were pleased to see that many of our classmates are active in alumni affairs. Besides our own class representative on the Alumni Council, **Dick Harris**, four of our members serve on the Council as club representatives, namely **Marty Billett**, Providence; **Bob Bliss**, Dayton; **Dick Snow**, Atlanta; and **Vince Vappi**, Springfield. In addition, **Ben Bretler** and **George Macomber** are associates of the Council, and **Ken Brock**, our former class agent, is a member of the Alumni Fund Board, associate director of the Fund, and a member of the Alumni Interfraternity Conference. Moreover, some 18 of our classmates are officers of 17 M.I.T. clubs: President—**Fred Magee**, New Mexico; **Clarence Moore**, Atlanta; **Don Blickwede**, Lehigh Valley; **John Comer**, Cincinnati; **Bill Lyons**, New Haven County; and **Ben Kessel**, West Suburban (Framingham, Mass.). Vice-president—**Oliverio Phillips**, Michelsen, Bogota, Colombia; **Arnold Singer**, South Texas; **Stuart Thayer**, New Orleans; **Francois Giraud**, Paris, France; and **Den-**

man McNear and **George Keller**, Northern California. Secretary—**Irving Steinhardt**, South Florida; and **John Juechter**, Connecticut Valley. Recording Secretary—**Harry Field**, Twin Cities, Minn. Secretary-Treasurer—**Art Brusila**, Berkshire; and **Mrs. Elaine Spencer**, Oregon. Treasurer—**H. J. Beattie, Jr.**, Schenectady.

Besides active participation in the Alumni Council and the various M.I.T. clubs some 46 of our brethren serve as members of the Educational Council: **George Keller** and **Den McNear**, San Francisco; **Ed Hanley**, Denver; **Bill Bangser**, Kent, and **John Littlefield**, Riverside, Conn.; **Marshall Baker** and **Dave Cist**, Wilmington, Del.; **Phil Lally**, Gainesville, Irv Steinhart, Miami, and **Pete Hand**, Winter Park, Fla.; **Clarence Moore**, Atlanta, and **Cassius Clay**, Augusta, Ga.; **Jack Page** and **Bill Weisz**, Chicago; **Stu Thayer**, Metairie, and **Joe Rault**, New Orleans, La.; **Harry Meyer**, Minneapolis; **Ed Stevens**, Kansas City, Mo.; **Art Renz**, Hanover, N.H.; **Roland Nagy**, Clifton, John Reid, East Orange, **Jack Walch**, Newark, and **Frank Senn**, Egg Harbor, N.J.; **George Hossfeld** (vice Chairman, Long Island), Huntington, **Tom Folger**, and **Norm Kreisman** (Regional Chairman), New York City, **Stan Jensen**, Penfield, **Bill Mosley**, Rochester, **Bill Hart**, Glens Falls, and **Bernie Geyer**, North Syracuse, N.Y.; **John Comer**, **Frank Iskra** (Regional Chairman), and **George Shields**, Cincinnati, and **Bill Moser**, Columbus, Ohio; **Don Blickwede**, Bethlehem, **Bill Bertolet** (Regional Chairman), Abington, **Hal Beumer** and **Ezra Garforth**, Philadelphia, and **Ben Dann**, Carbondale, Pa.; **Frank Jones**, Memphis, Tenn.; **Arnold Singer**, Houston, Texas; **Gene Ashley**, Burlington, Vt.; **Bob Wahsburn**, Parkersburg, W.Va.; **P. V. Danckwerts**, Cambridge University, England; **Jim Rattray**, Mexico City; and **Felipe Thorndike**, Lima, Peru.

Among the various Christmas cards we received was one changed address of particular note. **Harry** and **Ann Jones** have moved from their apartment in Horizon House, Ft. Lee, to a house, 914 Roslyn Road, Ridgewood, N.J. 07450. Harry, as you recall, was one of our former assistant secretaries. Unfortunately, there was no newsy note enclosed with the card, but we will try to get up to visit them soon.—**John T. Reid**, Assistant Secretary, 80 Renshaw Avenue, East Orange, N. J.; **Robert R. Mott**, Secretary, Kent School, Kent 57, Conn.; **Richard V. Baum**, Assistant Secretary, 1718 East Rancho Drive, Phoenix, Ariz.

'49

If your name appears in print just about anywhere, chances are I'll find out about it through Tech's fantastic news clipping service. But for the personal touch, there's nothing like a letter to light up the month for your secretary. This month there were three! . . . **John Goppelt** writes that he has been certified in psychiatry by the American Board of Psychiatry and Neurology. Our 15th Re-

union Questionnaire had a question which read: "Are you working in the field you studied at Tech?" John, who majored in electronics, can probably answer "No!" to that one with more emphasis than anybody. Or are you doing something even farther afield? Anyway, sincere congratulations to you, John. We know that this achievement required years of hard work beyond your M.D. degree. . . . From Mexico City, **Charlie Davis** invites us all to "Go South!" to the 17th Annual Fiesta sponsored by the M.I.T. Club of Mexico City. The affair (March 11, 12, 13) is high-lighted by a lecture on the development of the maser given by Dr. Charles H. Townes, Provost of M.I.T. and 1964 Nobel Laureate in Physics for his pioneering work in maser development. Aside from this feature attraction, guests will be shown everything lovely and beautiful that the city has to offer. The climate there in March consists of warm days and cool nights. . . . **Norm Stolz** has been named a general partner in the 106-year-old general insurance agency of Brewer and Lord in Boston. Norm is widely known in insurance circles for his invention of the Minute-Man Calculator and the Minute-Man Quickquote. The calculator is a circular slide rule used in his industry while the Quickquote is a greatly simplified method of presenting personal line insurance rates and premiums. Norm, with his wife Shirley and four children, lives at 2139 Massachusetts Avenue in Lexington, Mass.

Jack and Peggy Fogarty sent their annual Christmas letter which makes very fine reading. Jack, I presume, is still with Univac in the Philadelphia area. This year's letter doesn't say. But he is on the local M.I.T. Club Executive Committee, represents the Society for Advancement of Management on the Engineering and Technical Societies Council, is an overseer of the Chestnut Hill Friends Meeting, and continues as treasurer of the Erdenheim Civic Association. So he isn't home much. Eric, six and one-half, fell out of a tree and broke his left forearm in three places which didn't prove helpful at all. He's fine now, the cast is off and he can once again hold down his school papers and turn the pages of books. Barbie, four, is the big swimmer of the family and impatiently awaits warm weather again. The kids have two guinea pigs which Peggy describes as "ideal for low-maintenance pets—don't bark, jump, smell or need walks and they submit to any handling without a thought in their lettuce-filled brains." Peggy continues her publicity work for the Springfield Library Board and teaching First Day School yet still goes bowling on Fridays. Sounds like a marvelous family.

From my collection of questionnaires from the reunion, here are some more notables who were there: **Pete Cambourelis** is in the space systems planning section of Avco. He and his wife Helen live at 306 Marlborough Street in Boston's Back Bay. They have a daughter Eleni who was seven-months-old at the time of the reunion. Pete has gained 50 pounds since graduation, likes tennis and hi-fi, hasn't stopped smoking, can do 15

or 20 push-ups, and is working in the field for which he studied—i.e. business and engineering administration. Pete has held five jobs and moved nine times since graduation. He favored Scranton for president while his wife was all for Mrs. Margaret Chase Smith of Maine because: "It's about time we had a woman in the White House to straighten out the mud-dle men have made." You tell 'em, Helen! . . . **Bill Ederly** is financial vice-president of the Cabot Corporation and lives in Wayland, Mass., with his wife Lois and children Leonard and Stephanie. He has gained 10 pounds, likes skiing, swimming, and photography, has stopped smoking, is doing just what he trained for, and has held eight jobs with two companies in the intervening 15 years. He moved five times during the period. He and his wife both favored Henry Cabot Lodge for president. Bill has visited 12 countries since getting out and travels 25,000 miles per year on business. . . . **Larry Holt** is New England district engineer for the Niagara Blower Company. He lives with his wife Jane and children Marcia, Scotty, and Becky in Boxford, Mass. He can do 25 push-ups despite gaining 30 pounds and likes skiing, boating, golf, and girls. He, too, is doing what he trained for in Course II and has held two jobs since graduation. Like many others, the Holts would send a son to M.I.T. but not a daughter! . . . **Frank** and **Sonya Hulswit**, on the other hand, say: "My daughter—yes! My son—no! It's a good place to find a husband. My son doesn't need one." Frank is on the professional staff of Arthur D. Little, Inc., stationed in London. He has gained 10 pounds, likes square dancing, bridge, and reading and is another hardy soul who has given up the weed. The Hulswits have a daughter, Cornelia Lee, and son Christopher Lawrence. Frank has held 33 jobs (with the same company), visited 13 countries, and travels between 10,000 and 100,000 miles annually on business. Still staying with the big numbers, he reads between 100 and 200 non-professional books in a year. Wow!—**Fletcher Eaton**, Secretary, 42 Perry Drive, Needham, Mass. 02192.

'50

Bob Wolf has been named manager of market development at Itek Business Products. Prior to joining Itek Business Products, Bob served as marketing and sales manager for Sigma Instrument, Inc., a manufacturer of electromagnetic components and optical electronic control systems. In addition, he held positions in line sales and regional management. . . . **John F. Brown, Jr.**, has been named manager of biological investigations at the General Electric Research Laboratory, effective January 4. In 1950 he joined the staff of the research laboratory as an organic chemist. His major scientific research interests have been in the fields of polyfunctional catalysis, olefin nitration, infrared spectroscopy, radiation chemistry, stereospecific polymerization, and

polymer structure. Dr. and Mrs. Brown and their three children reside in Schenectady at 1479 Dean Street. . . . Captain **Stanley E. Ellison** has received the Bureau of Naval Weapons representative command. In his new post Stan becomes the Navy's chief representative with A.P.L. and five other Navy contact organizations. Prior to his duty as Bureau of Weapons representative, Stan was commander of the U.S. Naval Station and Naval Forces, Iceland, and concurrently U.S. chairman of the Icelandic-American Defense Council. . . . **James J. Bennett** has been appointed vice-president and general manager of Midwest Dental Manufacturing Company, a subsidiary of American Hospital Supply Corporation. Prior to joining Midwest, Jim was manager of Chicago Manufacturing operations of Hewitt-Robins, Inc. He was previously with Chrysler corporation and Thompson Ramo Wooldridge. Midwest Dental manufactures a full line of high-speed air turbines and control boxes, contra angles, handpieces and syringes in its Melrose Park plant. . . . One of your classmates, **Joe Zupanick**, received an advanced degree from the Polytechnic Institute of Brooklyn in June, 1964.

John Kern has joined the Coleman Instruments Corporation, Maywood, Ill., as manager of product planning. . . . **Rui J. P. DeFigueiredo**, was approved as visiting professor of electrical engineering. He has been associate professor at Purdue University since 1962. . . . **Tim Hanley** was appointed as director of General Motors' AC spark plug division research and development laboratory in Boston. Before joining AC, Tim was connected with Space Technology Laboratories where he worked on design and analysis of advanced guidance systems. . . . **John W. Korcz** has been appointed vice-president, manufacturing, of the Reynolds Aluminium Company of Canada, Ltd. . . . **Charles D. Spencer** has been appointed to a new staff position at Budd Cast Nylon. Charlie joined Budd Cast Nylon in September after 11 years as a group leader with Allied Chemical Corporation.

There are a number of changes of address to report this month. Stephen D. Moxley, Jr., 2161/2 Holmes Avenue, Huntsville, Ala.; William E. Moore, 68 North Abney Circle, Charleston, W. Va.; Paul Kruger, 3770 Wright Place, Palo Alto, Calif.; Walter B. Jones, Folleth Street, Marblehead, Mass.; Bob A. Jessup, 421 South Reuter, Arlington Heights, Ill.; Richard E. Dobroth, 820 Green Acres Lane, Glenview, Ill.; Charles W. Dickinson, 2184 Avalon Avenue, Pomona, Calif.; Herbert DeStaeble, Jr., 568 Channing Avenue, Palo Alto, Calif.; Daniel K. Chinlund, 346 Blanton Road, N.W., Atlanta, Ga.; Robert A. Cesari, Blair and Buckles, 89 State Street, Boston, Mass.; Richard J. Arzbaeher, 155 South Clearmount Street, North Canton, Ohio; John W. Craig, Jr., 137 Worthen Road, Lexington, Mass.; W. Lawrence Gates, 17181 Gresham Street, Northridge, Calif.; Fred Y. Marshall, Jr., 1190 West 68th Street, Hialeah, Fla.; I. William Millen, 2001 Wisconsin Avenue, N.W., Washington, D.C.; Rudolph W. Pierce, 87 Hemlock

Drive, Attleboro, Mass.; Kenneth R. Sinclair, Westinghouse Air Brake Company, 3 Gateway Center, Pittsburgh, Pa.; **Sanford Spraragen**, Brookhaven National Laboratory, Medical Department, Upton, N.Y.; **Mrs. Zachary S. Taub**, 87 Barton Drive, Sudbury, Mass.; **John D. Yerger, Jr.**, 1816 Nobel Street, Alcoa, Tenn.—**G. N. Stilian**, Secretary, St. Clair and Welch, Inc., 10 East 40th Street, New York, N.Y.

'51

The Review made this month's notes somewhat easier for me—I apparently got carried away in my initial enthusiasm so they suggested I shorten the column. As a result, I am able to use part of the January notes this month. . . . **Margaret Irby Koenig** (Mrs. Richard H.) and her four daughters are in Okinawa with her husband, who is serving in the Army. . . . **Donald Whitmore** is back in Boston with Cleverdon, Varney and Pike after spending 12 years in Florida. . . . **Hal Siegel** has added two single boys to his and Connie's two sets of twins and an LL.B.—in no particular order. Hal really deserves a lot of credit; he earned the law degree at Georgetown University nights and was admitted to the Maryland Bar in 1963. He has been with A.C.F. Industries for over 12 years and is currently a program manager for their electronics division. . . . Major **Glenn Mackey** has been re-assigned to Viet Nam as an air advisor and an A-1E pilot. "After two years at Edwards in flight test engineering" Glenn remarks: "this stint in Viet Nam should be very interesting and challenging—to say the least." Judging by current newspaper reports I guess we can only agree with Glenn. . . . Dr. **Aaron Brody** received the 1964 Industrial Achievement Award of the Institute of Food Technologists and the Leadership Award of the Packaging Institute. Aaron is currently manager of product development at M & M Candies and he and Carol (Goldstein) live in Morristown, N.J., with their three boys. How many of you remember Aaron's invention, the famous dentures which received coverage in *Life* magazine? . . . **Bill Lucas** has been traveling to Costa Rica over the last year building a small refinery. Now he is concerned with the building of a large petrochemical complex in Geismar, La., by Union Texas Petroleum, a division of Allied Chemical Corporation. . . . And **Bill Shenkle**, our Class Agent, is at Rockwell Manufacturing Company's new R & D Center in Pittsburgh as a systems analyst.

For those of you who have so kindly answered my letters, I want to assure you that your news will appear in the first set of notes submitted after I receive your card, but there is a two-month lag between writing the notes and seeing them in print. . . . **Nicholas Browne** recently moved to Indianapolis where he is now the product manager, paper industry flame plating department, Linde Division of Union Carbide Corporation. As you

may know, the plant is actually located at Speedway, Ind., which is apparently a fitting location for Nick since he wrote that his prize possession (and I assume that he means after wife, Faye, and their two children) is a 1914 Model T Ford Touring Sedan. . . . **Carroll F. White** is the market director for light chemicals for the Overseas Chemical Division of W. R. Grace and Company. Carroll, Alice and their three children live in Chatham, N.J., an hour and a quarter commuting distance from his office in Hanover Square (the tip of Manhattan). . . . **Carl Liswith** has been promoted to regional marketing representative, Eastern region, for IBM. Carl joined IBM in 1956 as staff assistant to the vice-president of research and engineering, but joined their sales staff a year later as a data processing representative. After graduating from Tech he spent three years on active duty in the Pacific aboard the 'U.S.S. Niobrara A072' and later in Washington, D.C.; he is currently a lieutenant commander in the naval reserve at Floyd Bennett Field, Brooklyn. Carl and Marion live in Briarcliff Manor, N.Y., with their three sons. . . . Last month I mentioned that the news topics seemed to run in cycles; this month's topic could have dealt with classmates who have gone into their own businesses. I did mention a couple of them last month, and I have a list in front of me, but I am trying to get a few more details. In the meantime my own partners have just discovered that I am writing this column and suggested that maybe I could update our own activities. In 1961 **Bob Rosenberg**, **Marvin Frank** and I got together (with one other person—non-M.I.T.), and founded MITRON Research and Development Corporation. We are located in Waltham, Mass., and our principal efforts are in two fields: metallurgy, and shock and vibration. Bob and Leila (Angoff) live in Norwood, Mass., with Andy, 4, Eric, 2, and one due at about the time that this column appears. Bob had been with Walworth prior to MITRON. Marvin and Anita (Rossien) live in Weston, Mass., with David, 12, Andrea, 10, Laura, 7, and Lisa Ann, 5. Anita was one of our Yearbook Sweethearts. Prior to returning to Boston, Marvin was general manager of T.R.G., Inc., in Syosset, N.Y. And Ellie (Clebrik) and I are enjoying the Lexington community with David, 3, and Judd, 1.

I was surprised to run across an article on quasars (see our class news February, 1965) in, of all places, *Time* magazine. For those of you who didn't happen to catch it (or do not read *Time*), it seems that that is the name given to quasi-stellar objects which apparently give off extremely large amounts of energy. They appear to be one more mystery in the enigma of our expanding universe. My apologies to Professor **George Field**. . . . *Electronic News* had a write-up on **C. L. Searle**, who devised a novel electronic system with a couple of his co-workers at the M.I.T. Molecular Beam Laboratory; the invention is a square-wave phase modulation device to correct for cavity detuning errors in cesium atomic beam frequency standards. . . . Our Canadian clipping service sent the

following note, under promotions in the Quebec North Shore Paper Forestry Company: "**Thomas Turgeon** a été nommé ingénieur de l'usine à papier de la société Québec North Shore Paper." The first 900 post cards that come in with some news for *The Review* will receive a translation! . . . And a card from **Joseph Sherrill, Jr.** which gives his mailing address as Wichita Falls, Texas, notes that he is planning to attend the Fifteenth Reunion. We hope that many more of you are starting to think about the fifteenth; volunteers are being recruited.—**Howard L. Livingston**, Secretary-Treasurer, 358 Emerson Road, Lexington, Mass. 02173; **Forest Monkman**, Assistant Secretary-Treasurer, 108 Park Avenue, Larchmont, N.Y.

'52

This is going to be another short column, because there just hasn't been much news coming from you. How about improving on this situation, or shall I send out another questionnaire? Of interest to '52ers is the award for the best paper published during the year 1963 in *Geophysics*, the journal of the Society of Exploration Geophysicists to **S. Parker Gay** out in Salt Lake City. In the *A.I.A.A. Journal*, **Daniel Hyman, Jr.**, who is a member of the technical staff of the Plasma Physics Department at Hughes Research Laboratories, and **W. O. Eckhardt**, who is a senior staff physicist in plasma physics at Hughes, were among those publishing a paper on the "Formation of Ion Beams from Plasma Sources." . . . **George Reichenbach**, who is an associate professor of mechanical engineering at M.I.T., has had two papers published recently: in the *Journal of Basic Engineering* an evaluation of a paper on retainer stiffness; and, in the *Metals Engineering Quarterly*, a paper on fundamental properties of materials in respect to small and precise devices. **Fred M. Snell**, who is with the department of biophysics, State University of New York in Buffalo, was co-author of a paper on "Conductance Study of Model Hydrogen Bonding Solutes in Aqueous Solutions at 25 degrees in the *Journal of Physical Chemistry* in August. . . . **Arthur J. Freeman** with Donald T. Stevenson, '50, was author of a feature article in the *Boston Sunday Globe*, November 1, 1964, on "Magnetic Fields and Research," concerned with the work of the National Magnet Laboratory at M.I.T. . . . **Walter W. Harvey**, who is with Kennecott Copper Corporation, has been elected chairman of the Boston section of the Electro-Chemical Society, at a meeting held in the Graduate House, M.I.T.

A. M. Gaudin is currently professor of metallurgy at M.I.T. and has been concerned with work in mining of minerals by processing sea water. . . . Dr. **Howard S. Bryant**, formerly supervisor of process development at Mobil Chemical Company's research laboratory in Beaumont, has been appointed to the new

position of manager of process engineering in the company's research and technical division in New York, where he will be responsible for process definition and design of new processes. . . . Union Carbide has elected **William H. Feathers** a vice-president. Mr. Feathers is one of the Class of '52 Sloan Fellows. . . . **Chris Sakellariadis** is head of the Athens office of Frank E. Basil, Inc., engineering consultants and master planners, and is working on an all-inclusive feasibility study determining the tourist potential and appeal of Crete, and working out new facilities required and assessing the economics of such projects. . . . And that is the bottom of the mail bag for today. Please drop a line if you have any news at all. I'm almost ready to start offering bribes for choice items—almost, but not quite.—**Dana M. Ferguson**, Secretary, 242 Great Road, Acton, Mass.

'53

This short piece is being written in the middle of January and by the look of the snow coming down, predictions of a record snow fall here in Cambridge are likely to come true. This snow seems to be falling everywhere except in the ski areas! . . . Thanks to **Mary Wohl**, I, we came across a notice in the second issue of New Coinage Magazine on **George Fuld**, IX and XX. George received his doctorate at Tech in bio-chemistry and is active in research in this field. In addition, he has attained national prominence in numismatic circles, where he is a past president of the Token and Medal Society. George has published three books, numerous articles and 74 papers on the coin and token field. He was recently chosen as one of the Outstanding Young Men of America. Congratulations! We really need to hear from you . . . like now!—**Norman R. Gardner**, Secretary, 100 Memorial Drive, Cambridge, Mass.

'54

It is the month of the Irish here in Boston, but the leprechauns have given us news of only one Irishman. At the physical and mechanical measurement instrumentation symposium last October, the session on recent developments in metallic strain gages had as its chairman, **Jerome Catz**, who is an assistant professor in M.I.T.'s Mechanical Engineering Department. . . . Last month we reported that **William McTigue** had been in Cambridge during the fall for a class day row with his Henley teammates of 1954. He must have found Cambridge still to his liking, for in December he was appointed as executive secretary of the Educational Council. He will also serve as an associate director of admissions. Bill received a

master's degree from Newark College of Engineering in 1962 and had most recently been a district engineer and project manager for the Moretrench Corporation. . . . Gathered from Christmas cards, mine, and those which another has kindly shared: **Warren Davis** and his wife Jeanne now write from Washington, D.C., where Warren is in government service. They have just returned to the U.S. after a two-year tour on Okinawa. . . . A Christmas picture from Barbara and **Phil James** shows that three-year-old Greg has a new playmate, Lawrence (Larry), born August 20, 1964. . . . **Bob Law** is still with Procter and Gamble, but has recently been transferred to Augusta, Ga. . . . **Roy Riedinger**, who spent the Christmas season in Florida, shares with us his joy and excitement regarding the birth of his first child, Ann (Gay) Graydon on April 16, 1964. For you statistically minded readers and any wives who read this, sorry, but Roy didn't say how much she weighed. . . . A note from **Jim Rude** reports that his master's in mathematics from the University of Minnesota is almost complete. Jim, who counts himself among the few bachelors in our class, has been working as a mathematician for Univac these last three years. . . . We have an almost-vice-president among us: **David Springsteen**, who was promoted to assistant vice-president of the Chase Manhattan Bank. Dave is an enthusiastic sailor. In cruising class at Larchmont last summer he placed first, second, and third twice in eight races. . . . **Dave Vogel** and his wife, Pat, report a busy and delightful life in Wisconsin. They mentioned hunting, ice fishing and boating, raising and showing dogs, and more and more. . . . **Al Ward** still reports from Pittsburgh where his employer, U. S. Steel, has him planning facilities for plants in a variety of geographical locations.

Two holders of doctor's degrees made news. **Otto Lerbinger**, who is chairman of the Division of Public Relations at Boston University, published an article, "Broadening the Base of Influence of Public Relations," in the fall issue of Public Relations Quarterly. . . . **Robert C. Reid**, who is an associate professor of chemical engineering at the Institute, was a member of the panel discussion on systems for estimation of physical properties at chemical engineering meetings held in Boston early in last December. . . . Your secretary had a pleasant lunch with your president, **Chuck Masison**, and your class agent, **Dean Jacoby**, in January. The weighty subject was the New Year and the structure of the class. Our objective is to try to draw the class closer together. In addition we hope to generate more effective participation in the Alumni Fund, and fill up this column with news. To try to accomplish this, Chuck is going to be asking about 20 classmates to agree to keep in touch by phone or letter with approximately 20 other classmates. If this co-ordinating counsel program proves successful, it will be extended until every member of the class will receive several letters a year from a classmate. It should be pleasant for each of us to be in close contact with a class-

mate, and moreover very helpful for the officers. Until next month, remember to write.—**Bob Evans**, Secretary, 43 High Street, South Acton, Mass. 01771.

'55

Just to set the record straight, let your Wilmington correspondent disclaim any of the ingenuity that went into the recent questionnaire, including the derivation of your Affluence Quotient. The Affluence Quotient calculation should henceforth be known as the famous Shapiro Equation. . . . Reunion plans seem to sound good to a lot of people, though many, like us, dare not plan anything six months in advance! But we do hope to be there and to see lots of you all there. . . . Also to set the record straight, although we do need class dues, the questionnaire is free. So do return it whether you are checking that particular box or not! . . . **Joe Clumpner**, better late than never, just returned the questionnaire we sent out a year or so ago with all sorts of good news. Last May, Joe was one of three recipients of the Olin Research Awards for his work in the metals division on heat transfer in brass and aluminum. In addition to his job as supervisor of the process sciences group at Olin, he is a half-time student at Yale, working for a doctorate in engineering and applied science. He and Karin live in Bethany, Conn. . . . Last June, **Eduardo Elizondo** received a master's degree in electrical engineering from Brooklyn Polytech. . . . **Jim Abrahamson** has completed an interesting course, too—the operational training course for F-100 pilots! After the course at Luke A.F.B., Ariz., he was assigned to a tactical air command unit at Cannon A.F.B., N.M. Since 1955 Jim has acquired among other things a wife, Barbara, from Morgan Hill, Calif., and a master's degree from the University of Oklahoma. . . . At Grumman Aircraft in Bethpage, N. Y., **Richard Oman** is head of the gas dynamics group of their research department. . . . In New Haven, **Dick Sipfle** is manager of program engineering at M.B. Electronics.

Keatinge Keys, who was one of the Navy contingent receiving degrees in 1955, has published an article with a biography bringing us somewhat up to date on his activities. M.I.T. was followed by submarine school and a tour in submarines. From 1957 to 1959 he was a naval architect with the firm of Morris Guralnick working on both surface ship and submarine design. He returned to active duty in 1959 serving as an engineering duty officer on the San Francisco Naval Shipyard, then in the Bureau of Ships. . . . **Chan Stevens** writes that he is managing the Stevens plant in Mansfield and that **Ash Stocker** and his family left Mansfield in September for Ash to return to school for a master's at Ohio State. . . . That's about it for now, but we look forward to closing the communications gap with a lot of you in the near future as the

questionnaires come in and the reunion nears.—Co-secretaries: **Mrs. J. H. Venarde (Dell Lanier)**, 2401 Brae Road, Wilmington, Del., 19803; **L. Dennis Shapiro**, Aerospace Research, Inc., 130 Lincoln Street, Boston, Mass. 02135.

'57

For the past two months my job has been rather easy in that I have been able to muster a respectable column from single letters. Now there is some catching up to do on the less-than-epic-length letters that have been piling up (using the phrase "piling up" commits a gross distortion but does soothe my hurt feelings). From **Herb Schwartz** I received the following note of progress: "I am now a member of the New York Bar and an associate of the patent law firm of Fish, Richardson and Neave, where I clerked the previous summer. I expect that I am through with my schooling for a while, as last May I received my LL.B. from the University of Pennsylvania Law School as well as an A.M. in economics from the University's graduate school. While at law school I was an editor of the Law Review and was elected to the Order of the Coif, an honorary legal fraternity. My wife, so as not to feel left out, received a M.S. in education from the Education School at Penn. Of more interest to us was the recent birth of our daughter, who manages to keep things lively at our apartment." . . .

Harry Johnson wrote that he and his wife recently had their third child (all are girls) and that he was appointed, in September of 1963, assistant dean of the School of Business Administration of the University of Connecticut. . . . **Mike Brenner's** letter read as follows: "I received a promotion to supervisor at Bell Telephone Laboratories. My group is called "Operations Analysis Studies" and comprises about five people varying from full members of the technical staff to programmers. Our most interesting project right now is working on policies regarding telephone directories, in particular the frequency of publication and coverage. **Lester A. Gimpelson** also received a promotion to supervisor; his group is doing a series of studies on network problems." That is the pile of letters which I referred to earlier. Now you can help start a new one—how 'bout it?—**Frederick L. Morefield**, Secretary, 1-A Acorn Street, Boston, Mass. 02108.

'58

Just recently, I talked with **Ed Macho**, who has swelled by one the number of our class in Michigan. Ed and Carol, with their daughter, Mary Beth, have traded Los Angeles for Dearborn Heights. Following Harvard Business School, Ed went west to work for North American and later with the well known toy firm of Mattel (it was swell!). Now with the Ford

division, Ed is a finance analyst in the comptrollers' office. After only two months they have already joined that devoted group of Mid-western skiers. But they will be trading again soon—when Henry said you could have any color as long as it's black, he meant Fords, not Volkswagens. . . . Received a letter from **Larry Boedeker** reporting that his doctoral thesis work is progressing well and he hopes to finish this summer. While Larry has been busy at M.I.T., his wife, Pat, has been working with Houghton Mifflin in Boston on a variety of interesting assignments. Larry may be the first man to have a thesis published by his wife. Larry also sent along some information about other classmates and since he asked to remain anonymous, I hope you all will oblige. He writes: "**Charles Haldeman** received his Sc.D. in September, 1964, from M.I.T., Course XVI, and is currently on the D.S.R. staff, aerophysics laboratory. Chuck and Louise have a one and one-half year-old son and are now living in Lexington. This fall, Chuck took time out from work long enough to go deer hunting and bag a buck on opening day. . . . **George Bienkowski** received an appointment this fall as assistant professor in aeronautical engineering at Princeton. George and his wife Cindy have two children, Lisa, four and Jay, 2. Before receiving his Princeton appointment, George spent three years at Cal. Tech doing post-doctoral research in kinetic theory."

It is with deep regret that we report that **Norman Howard** was killed in an automobile accident caused by fog on December 5, 1964. At M.I.T., he was a member of Theta Delta Chi and played on the varsity basketball team. The class joins in expressing our sympathy to his family. . . . **John Presti** is a chemical engineer in the research and development group at electric boat division, General Dynamics in Groton, Conn. John has been active on the Republican Town committee there and also in the Young Republicans Club. . . . **Warren Moon** has returned to M.I.T. to work for his Sc.D. in geophysics. At R.C.A. before returning, he worked on the development of mathematical checkout models for the Lunar Excursion Module. He has also been with AC Spark Plug as a project staff engineer working on guidance and navigation systems.—**Michael E. Brose**, Secretary, 205 Pine Street, Tecumseh, Mich.; **Antonia D. Schuman**, Western Associate, 22400 Napa Street, Canoga Park, Calif.; **Kenneth Auer**, Midwestern Associate, 23105 Stonybrook Drive, North Olmsted, Ohio.

'59

I have recently been informed of the death of one of our classmates, **Fred Willey**, on May 30, of last year. Fred was a graduate of Course V and was at the Organische Chemisches Institut in Tiergartenstrasse, Germany at the time of his death. . . . Class news is relatively

sparse this month, but I managed to dig up some information in the newly published Alumni Directory. In direct contact with the Alumni Council here at M.I.T. are **Al Bufferd**, '59 representative, and **Dave Packer**, '60, a member of the Class Reunions Committee. Presently serving as officers of M.I.T. clubs are **Leonard Schnetzer**, Akron, Ohio, recording secretary; **Frank Schmaltz**, Cincinnati, Ohio, secretary; **Oliver Seikel**, Cleveland, Ohio, assistant treasurer; **Frank Rising**, Detroit, Mich., vice-president of programs; **Paulo Lam**, Hong Kong, vice-chairman; **Bradford Bates**, Los Angeles, Calif., assistant secretary; **Miguel Barasorda**, Puerto Rico, president; and **Hiroya Fujisaki**, Japan, secretary. Incidentally, '59ers, the M.I.T. clubs offer some very interesting programs and pleasant social events. If you haven't been contacted by your local club and you don't know how to reach them, let me know and I will give you the names and addresses of the officers. . . . **Wayne Worrell** dropped me a very informative note last month, and I quote verbatim: "After five and one-half years, I feel that a communication to the class secretary is in order. I am one of the many in our class who stayed on for graduate work at M.I.T., receiving my Ph.D. in metallurgy in June of 1963. Since that time I have been a research metallurgist in the Inorganic Materials Research Division of the University of California at Berkeley. This year I have been appointed a temporary member of the faculty to lecture a course in materials science. I have really enjoyed both my professional and social life in the San Francisco area, but I will most likely return to the East when my research projects are completed this summer." He continued: "I have somehow managed to stay single, but my close friend and fellow classmate, **Ronald C. Shank**, was married in October. Unfortunately, I couldn't arrange to go to Connecticut for the wedding. However, there was a West Coast reception at his parent's home in San Jose after the honeymoon. His wife's first name is Cathy but I don't remember her maiden name. Ron recently received his Ph.D. in nutrition and food science from M.I.T. and has been awarded a post-doctoral fellowship to do cancer research in England." He concludes with a statement that does my weary typewriter good—"If you still desire volunteers, I would be glad to serve as an assistant secretary provided that the fringe benefits are substantial and the work is negligible." As a matter of fact, Wayne, the work is negligible, but I can't promise any fringe benefits beside the knowledge that you are helping to keep a pretty darn good class together. I thank you for the offer, and I am not one to look a gift horse in the mouth. (Note your name at the end of this article. Congratulations!) The only thing that I expect from an assistant secretary is occasional checking with classmates in the area through the address list, hearsay, or the local M.I.T. club. You might also be asked to help if a local class function should come along in your area, or in case of a general Class Reunion. As one fringe bene-

fit, you will receive absolutely free of charge a copy of the Official Class of '59 Address List.—**Glenn W. Zeiders, Jr.**, Secretary, 3 Rose Avenue, Watertown, Mass.; **Wayne L. Worrell**, Assistant Secretary, Hearst Mining Building, Lawrence Radiation Laboratory, Berkeley, Calif. 94720.

'60

Don Weaver and his wife, Laurel, stopped by over the holidays. Don is completing his last year at Stanford Medical School. He hopes to intern in the East but is not sure where. I am happy to report that he hasn't changed much, except that it is getting harder for him to keep down to his 123-pound wrestling weight. . . . **John Beckett** wrote a brief note. He is vice-president of the R. W. Beckett Corporation in Elyria, Ohio. John and his wife have a daughter, 2, and another on the way. . . . **Norm Vadner** is now working as an industrial engineer at Campbell Soup. Norm started working for a M.B.A. at Columbia in February. . . . Arrangements are being finalized for the reunion. I hope you have the dates marked and are planning to attend. Remember June 13-15, Wentworth-by-the-Sea, N.H. See you there.—**John B. Stevenson**, Secretary, Partridgeville Road, Athol, Mass.

'61

What has gotten into you people? After years of silence I am suddenly inundated with letters (four), apparently written voluntarily. Thanks to all who wrote! I appreciate it, as do the readers of the column, I am sure. . . . **Len Spar** writes that he is working for Control Data in Newark, N.J., as an applications analyst. He is married to the former Judith Welz of Brookline. They are the parents of two sons, Steven, aged 2, and Daniel, 7 months. . . . From a correspondent, I found out that **Stephen Waltman** received his M.D. from Yale in June, 1964; he was top man in his class. He has a general surgical internship at Massachusetts General Hospital, which terminates in June, 1965, when he will take up his residency in ophthalmology at Barnes University Hospital in St. Louis. . . . **Stephen Salomon** wrote: "Last June I successfully defended my thesis for Docteur de l'Université de Paris (Paris, France) in physics. I am presently working on my Ph.D. in semi-conductor physics at Purdue University." . . . I can do no better than to pass on to you intact **Mike Zimmerman's** letter: "Greetings!—not from Uncle Sam, but from the land of the morning calm (Korea) and it is—early in the morning. Am a 1st John in a forward support company helping out a brigade of infantry up near where you get fortune cookies. That means this is a garage for the Army we run here—third echelon maintenance. Course XXI subjects are probably the best background as they provide one with sense of humor. Some-

times I'm infantry platoon leader and sometimes company commander. An observation: I'm generally more impressed with the way many enlisted men handle themselves than with many commissioned officers. The average G.I. is a pretty good Joe. I went through training at Aberdeen last summer after about a year at DuPont in new product development. It was pretty interesting, as is this, too, in a very different way. Met **John Reed**, XV, down there (Wilmington) last spring after his return from this area. **Mitch Brodtkin** was out Los Angeles way after sifting sand at Yuma, Ariz., for the Army. I had a copy of Technology Review sent. Pleasant to read of what some fellows are up to, and keep track of old pals when traveling."—**Joseph Harrington 3rd**, Secretary, 22 Hidden Road, Andover, Mass. 01810.

'62

Harold Metcalf wrote that he and his wife Marilyn are proud parents of a son, David, born in November. Harold is in graduate school at Brown University in the Physics Department. . . . **Roger Lewis** has entered the Peace Corps and by now should be in Tunisia. He will be working on the design and construction of buildings and roads in this country. He completed 12 weeks of training at the University of Utah in the French language and Tunisian culture and history. . . . **Alexander Bogan, Jr.**, was awarded the master of science degree in physics at the Case Institute of Technology last June. . . . **John Costello** wrote that he married the former Laurene Smith from Laurel, Mont., in November. They met at Fort Knox, Ky., where John is serving his two-year tour with the Army. When his tour is completed, he will be working for the Badger Company in Cambridge, Mass. He worked with Badger previously after graduation from M.I.T. before he entered the Army. . . . **E. Robert Schildkraut** collaborated on an article entitled "Cinemicrophotography of Blood Flow in Man" using developmental work carried out in the Strobe Laboratory at M.I.T. under **Harold E. Edgerton**, '27. . . . **Bill Jackson** and his wife Gerry are living in Dallas, Texas, where Bill is an engineer at Texas Instruments. . . . **Art Samberg** and his wife Becky were here in Hawaii on a two-week vacation. They spent some time on the outer islands and then joined us on Oahu where we toured some of the local scenery. I am anxiously waiting to hear from other members of the Class of '62—**Jerry Katell**, Secretary, 2819 Pacific Heights Road, Honolulu, Hawaii

'63

The Josh White concert sponsored by our class was a moderate success, netting us about \$400. We owed about \$50 to past creditors, so the remainder will comprise the class treasury for the near future. Thanks are due to our class treas-

urer, **Steve Kaufman**, for the work he did in managing the concert. Most of the dog work came up around exam time, naturally. . . . **Pat Selby** is working on her Ph.D. in chemistry at Brown. She writes that many a Tech man is roaming the hills of Providence. **Tom Parr** is there in geology and is active in the Outing Club. And there are a couple there from the Class of '62, who, of course, can not be mentioned here. . . . **Marley Bielefeld** has finished her M.S. in chemistry at Wisconsin and is now in Chicago working in organic chemistry. . . . I again insert my standard appeal for news. This column keeps getting shorter; soon I will just sign my name—**Bob Johnson**, 11 Myrick Street, Allston 34, Mass.

'64

With great sadness I report the first death of a member of the Class of '64 which has been brought to my attention. **King Clifford**, a member of Sigma Phi Epsilon fraternity and a graduate of Course II, died January 8, of heart failure complicated by pneumonia in his home town of Detroit. Before going home for the holidays, he was working for Caltex in New York City. King was active in student affairs and the kind of person who will be fondly remembered by his many friends in the M.I.T. community. Condolences may be sent to his home, 110 Moran Road, Grosse Pointe Farms, Mich.

For the greater part of this month's news we have to thank **Bob Scott** and his wandering visitor for the week, **Bob Sanders**. Bob Scott, having spent four years paying tuition to M.I.T., is now trying to make it back by working for the administrative staff of Dean Brown. Bob Sanders, also having spent four years paying tuition to M.I.T., is giving more of it away to Penn. . . . As for others: **Bob Beardsley** is in graduate school at M.I.T. in geology. . . . **Len Buckle** is working for New England Telephone and Telegraph, but starting in May, Len will be working full time for Uncle Sam's Army. . . . **Jerry Burchfiel** is in graduate school at M.I.T. . . . **Frank Carpenter** is at the Divinity School at Chicago. . . . **Jim Gerber** is at Penn in electrical engineering. . . . **Conrad Grundlehner** is also at Penn, where he is doing graduate work in economics. . . . **Kenneth Harrow** is doing graduate work in literature at N.Y.U. . . . **Tom Herbert** is in graduate school at Johns Hopkins studying bio-physics. . . . **Bob Howie** is working for the Instrumentation Lab. . . . **Kenneth Kaiser** was awarded a Woodrow Wilson Fellowship and is studying the history of architecture at Columbia. . . . **Bob Kimmel** is a graduate student at M.I.T. in textile technology. He is engaged to a southern belle and plans to get married this summer. . . . **Jerry Weiner** is at M.I.T. in mechanical engineering and industrial management. He lives in Winthrop with **George Piotrowski**, who is a graduate student in mechanical engineering.—**Ron Gilman**, Secretary, 204 Dane Hall, Cambridge, Mass. 02139.

Club News



Former, Present, and Future M.I.T. Students Discuss Education and Professional Obligations

Fraternizing in Washington

The ninth annual luncheon for the Washington area's M.I.T. students and prospective students was held at the John Wesley Powell auditorium, 2170 Florida Avenue N.W., on December 29. Fifteen club members and Mesdames Iveson, Johns and Phillips were the hosts and hostesses. About 40 M.I.T. students, including six co-eds, shared their experiences with about 36 local high school students.

As chairman of the District of Columbia Educational Council, Bill Howlett, '40, told the audience that the Institute strove to provide the best in education to those most likely to contribute to our society in the future—those bright high school students who combine broad and balanced interests with qualities of leadership. Paul Robinson, '44, Club President, complimented Bob Blake, '41, on his continuing effective promotion of this yearly event since its inception in 1956. He also noted that admission to the Institute is the key to membership in the Alumni Association.

Jim Evans, '63, now a graduate student, described the many varieties of extracurricular activities available to students in the Boston area, "Hub of the New Universe." He encouraged his student listeners to learn how to plan use of their time so that they might simultaneously promote their social and intellectual development.—J. J. Phillips, Jr., '38, Publicity Chairman, 3606 Fulton Street N.W., Washington, D.C.

Sightseeing in Atlanta

M.I.T. students from the Atlanta area who were home for the Christmas holidays, and their fathers, were entertained by members of the Atlanta M.I.T. Club on December 29. They toured the huge Lockheed-Georgia aircraft factory at Marietta, saw the new C-141 Starlifter all-jet cargo plane being built for the Air Force, the renowned C-130 Hercules turboprop cargo plane (nearly 800 of which are in service in all parts of the world) and a high performance corporate Jetstar.

After the tour, students and members of the club had lunch in the company cafeteria. Present were: Bill Bennett, Bill Harris and his father, Mike Hester, Gerry Ladd and his father, Bob Large, Scott Marks and his father, Jerry Udinsky and his father, Jim Veazey. Club members present were: Earl Blount, '28, Fred Dickerman, '30, Talbot Hopper, '64, Pat Moore, '48, Barney Meyer, '42, Elmer Sanborn, '22, and Bill Shuler, '38.—Bernard H. Meyer, '42, Secretary-Treasurer, 5845 Brookgreen Road, N.E., Atlanta, Ga.

Helicoptering in Dallas

The M.I.T. Club of Dallas was host to the 19 M.I.T. students home for the holidays and 31 young and eager applicants for admission to the Institute last December 28. To encourage good relations and support of M.I.T. in the high schools, each student guest was requested to bring his high school science or mathematics teacher, guidance counselor, or parents. More than 30 per cent of our Dallas applicants are semi-finalists in the 1965 National Merit Scholarship Competition.

Through the courtesy of E. J. Ducayet, '31, and Bob Lichten, '43, of Bell Helicopter Company, all of our student guests were treated to a demonstration ride in one of Bell's 47-J2A executive model helicopters piloted by Club Vice-president Lichten from the Heli-port at North Park Inn, the luncheon site.

Club President Robert E. Harrison, '47, introduced Dr. Jesse E. Hobson, Vice-president of Southern Methodist University, to the largest gathering of M.I.T. alumni, students and guests in the club's short history. Dr. Hobson delivered a wonderful talk on the social responsibility of today's engineer and scientist. "The United States is failing an internal emergency today because its social development has failed to keep pace with its technology and scientific developments."

Dr. Hobson pointed out that it was not too long ago that a potential young engineer or scientist went to school to gain the tools of his profession and that his major objective in life was practice in the use of those tools. His satisfactions came through the exercise of those and the knowledge he gained in order to create a better product or system. All this has changed, according to Dr. Hobson, to where today's engineer and scientist must be more concerned with the economic and social end-results of his work. He must measure the impact and influence of his work on society and the economy. It is for these reasons that engineers and scientists are rapidly becoming policy-makers.

Dr. Hobson predicted that Dallas would become the Cambridge of the Southwest and thereby fulfill an area need. He pointed out that Dallas has great institutions of learning but that the sophistication of Dallas industry is already surpassing that of these institutions and new ones are needed. Dr. Hobson closed his remarks by urging the students and applicants to return to the Dallas area to participate in its growth and development.

The following alumni were present: Frank Bell, '10, John Lawrence, '32, Jonathan A. Noyes, '12, Vincent S. Hane-

man, Jr., '47, Robert L. Lichten, '43, Max D. Daggett, '46, Donald S. Nelson, '26, George Kohfeldt, '25, Virgil B. Pettigrew, '47, Robert Stanley Allan, '55, Donald E. Jarvis, '52, James R. Reese, '52, William B. Scott, '44, L. Preston Whorton, '35, Edward O. Vetter, '42, Robert E. Harrison, '47, Lester R. Ackerman, '48, Thomas P. Kennedy, 3rd, '52, Homer A. Hunter, '32, R. F. Hunter, '64, John J. Freiburger, '45, Benjamin C. Scott, '41, Edward C. Rees, '35, Carl H. Rooth, '47, Peter Rosoff, '61, Richard S. Simons, '59, William C. Schoolfield, '32, C. Gordon Peattie, '52, Ensley O. Oglesby, Jr., '47, Tom Wofford.

Students, applicants and their guests included: R. L. Grandjean, Paul M. Hackbarth, Michael L. Sinder, Willie Lee Lutz, Jr., Robert Edwin Neves and his father, Jeffrey S. Passel and his father, T. F. Brownscombe and his father, Donald Cadenhead and his father, Harold Granek and his mother, Jodie N. Ray and his mother, Miss Cathy Bolding and her mother, Stephen H. Skiles, his father and his brother, Michael S. Burt and Miss Gillon, Christopher B. Whorton and Mrs. Parker, Larry Bellows and Mr. Raymond Boosahda, Sanderfield A. Jones and Mr. James Rose, James Michael Lynch, Thomas M. Deaton, T. D. Prince, and Allen Mandel.—John J. Freiburger, '45, Secretary-Treasurer, 7407 Stonecrest, Dallas, Texas.

Reporting in New Haven

The M.I.T. Club of New Haven held its second student-alumni luncheon on January 2. Meeting at the Waverly Inn, Cheshire, Conn., several students reported on scholastic and extra-curricular activities at Tech. The Alumni heard about the various freshman activities and their elective courses. One student reported on the variety of social events taking place in the dorms and on their governing units. Two students enlightened the Alumni concerning their courses in political science and earth sciences. Questions and discussion followed.—Suren A. Semonian, '50, Secretary, 302 Annrose Drive, Orange, Conn.

Conferring in Toronto

The M.I.T. Club of Ontario held its annual Christmas meeting on December 29 at the Toronto Board of Trade. Two undergraduates, Don Carlisle, '69, and Martin Golder, '68, and two graduate students Denis Coleman and Marilyn Smith, were present. The meeting was chaired by Ed Peacock, '47, Club President, and the students were thanked for their participation by Robert H. Winters, '33, of the M.I.T. Corporation.—Michael M. Koerner, '49, Secretary, 14 Ridgefield Road, Toronto, Ontario, Canada.

And Selling Wisconsin

Fifteen students were guests of the M.I.T. Club of Milwaukee at our annual Christmas luncheon on December 29. Three members, Will Mitchell, Jr., '46, William Schield, Jr., '46, and Harold Koch, '22, gave short talks on opportunities for graduates in the Wisconsin area.—K. L. Holmes, Secretary, '51, 4924 N. Idlewild Avenue, Milwaukee, Wis.

Max Alimansky, '28, Heads Berkshire Club this year

The Berkshire M.I.T. Club held its fall meeting in Williamstown, Mass., last November 19. Wives listened with interest apparently equal to that of their husbands to Bryce Leggett, Associate Director of Admissions, speak on "Could Yesterday's Graduate Get Into College Today?" The discussion of today's admission requirements, competition and philosophy was especially significant to alumni whose children are approaching college age.

The Berkshire M.I.T. Club Officers elected at an organizational meeting in May, 1964, and the Executive Committee for this season are: Max I. Alimansky, '28, President; Luke S. Hayden, '41, Vice-President; Arthur W. Brusila, '48, Secretary-Treasurer; Harry Kalker, '23, Past President; A. Kelly Hooks, '53, Program Chairman; Robert P. Auty, '48, Educational Guidance Chairman; Edward H. Goodman, '31, Member-at-Large.—Arthur W. Brusila, '48, Secretary-Treasurer, 289 Stockbridge Road, Lenox, Mass. 01240

McTigue and Frailey Visit Pennsylvania Club

Educational counselors from local high schools turned out for the January 18 meeting of the Western Pennsylvania M.I.T. Club. William H. McTigue, '54, Associate Director of Admissions at Tech and Executive Secretary of the Educational Council was present. Jack H. Frailey, '44, Director of Student Aid, presented an interesting discussion of his work at Tech. Mr. McTigue, whose academic work was in Civil Engineering, specialized in foundation engineering and heavy construction prior to assuming his present responsibilities late last year. Mr. Frailey holds three degrees in aeronautical engineering from Tech and was varsity crew captain during his undergraduate years.—Harry F. Raab, Jr., '50, Assistant Secretary, 5053 Grove Road, Pittsburgh, Pa. 15236

Engineering Responsibilities Discussed at Baltimore

The M.I.T. Club of Baltimore held a luncheon meeting last December 29 at the Engineers' Club of Baltimore. This was our annual student meeting and 50 undergraduates who reside in the greater Baltimore area attended. They represented the classes of 1965, 1966 and 1967.

Charles Speas, '42, made the arrangements and acted as host. He talked informally about what is expected of an engineer and what responsibilities he faces. Two students also were called upon to give their impressions of what an engineer can expect after he leaves Tech.

Doug Haven, '52, and Guy Spencer, '56, from the M.I.T. Alumni office, held an informal meeting on the M.I.T. Alumni Fund Drive after the luncheon. Our club expects to hold this drive in the spring, with Kirk Miller acting as local Fund Drive Chairman.—Hans G. Morgenstern, '58, Secretary, 45 Dundalk Avenue, Dundalk, Md.

Politics and History Interest St. Louis Alumni

The M.I.T. Club of St. Louis joined the Harvard Business School Club in sponsoring a dinner meeting at Le Chateau last October. Reflecting the political atmosphere prevalent at that time, the program featured a debate between Missouri Congressman Thomas C. Curtis and his opponent, Sidney McClanahan. Although the debate ended inconclusively, Mr. Curtis was re-elected in November.

An early Christmas party was held on December 10 at the completely restored Old Courthouse in St. Louis, now a national monument and museum of early Americana. It was here that Dred Scott brought suit to obtain his freedom. Dinner was served by candlelight in the rotunda under the great dome, all the museum exhibits were open for inspection, and the program featured an illustrated talk on the Riverfront Gateway Arch now being built on the west bank of the Mississippi river at St. Louis. This massive stainless steel structure will soar 630 feet above the ground when completed. It now rises over 300 feet. Art Prichard, who has overall responsibility for the project, explained some of the unusual design and construction features and also described some of the problems encountered. The cold foggy night in no way dampened the pleasure of the members and their wives.—Ronald H. Lieber, '55, Secretary-Treasurer, 331 Chestnut Avenue, Webster Groves 19, Mo.

John W. Barriger, '49, heads Southern California Club

The M.I.T. Club of Southern California met January 19 at the Los Angeles Athletic Club, and elected officers for 1965 year were as follows: John W. Barriger 4th, '49, President; Arthur Schwartz, '47, First Vice-president; Martin Chetron, '56,

Second Vice-president; Bradford Bates, '59, Secretary; William Hawe, '52, Treasurer. Members of the Board of Governors have been appointed, and will be listed in forthcoming issues.

The guest speaker was Colonel Charles Yeager, Commandant of Training at the Edwards Air Force Base. Colonel Yeager is in charge of training pilots who test fly the X-15 and other supersonic test craft. Colonel Yeager was the first Army Officer to fly the X-1 Prototype.—Arthur Schwartz, '47, First Vice-president, 144 South Camden Drive, Beverly Hills, California.

Sports Events in March

The M.I.T. athletic department has the following events scheduled (numerals designate day of month):

Rifle—St. Michael's, away, 6; Harvard, home, 12; Bowdoin, home, 13; Northeastern, home, 19.

Pistol—Coast Guard, Massachusetts, away, 6.

Skating—St. Lawrence Carnival, away, 5, 6.

Indoor Track—Intercollegiate 4A's Championships, away, 6.

Fencing—Intercollegiate Fencing, away, 12, 13; N.C.A.A., away, 19, 20.

Wrestling—New Englands, away, 5, 6.

Wrestling (freshman)—Tabor Academy, away, 3; New Englands, away, 5, 6.

Squash—N.I.S.R.A., away, 5, 6.

Squash (freshman)—Priory School, home, 3; Lawrence Academy, home, 6.

Swimming—Massachusetts, home, 2; Bowdoin, away, 6; N.E.I.S.A., home, 12, 13; Eastern Intercollegiate Swimming League, away, 20.

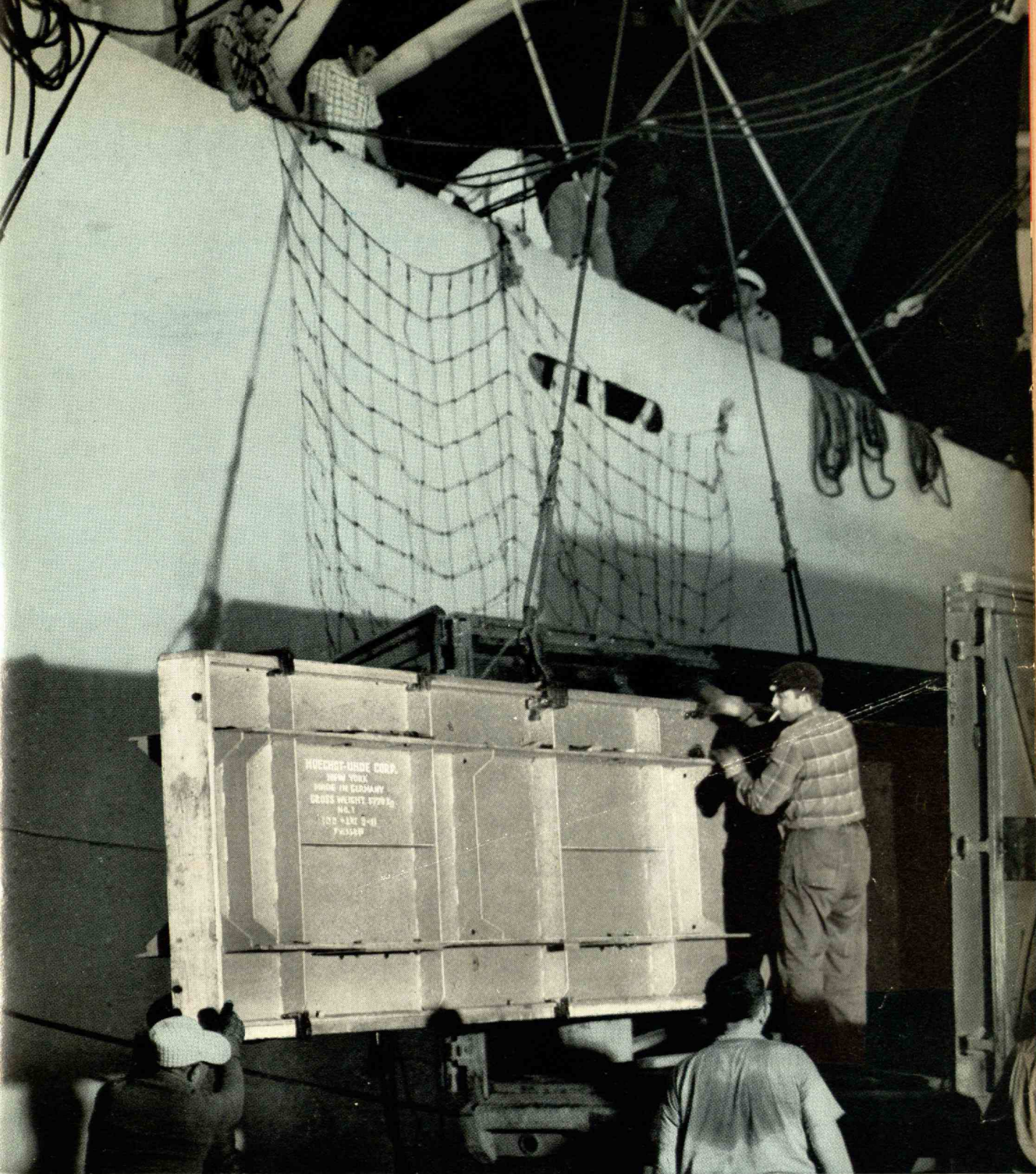
Swimming (freshman)—Massachusetts, home, 2; Bowdoin, away, 6.

Hockey (freshman)—Tabor Academy, away, 3.

The Club Meeting Calendar

M.I.T. Alumni gatherings announced in time for listing in this issue of The Review will be as follows:

City	Date	Speakers	Secretary
Houston	Mar. 15	Donald F. Carpenter, '22 James R. Killian, Jr., '26	Edwin A. Reed, '45
New York	Mar. 16	To be announced	James N. Phinney
Bethlehem	Mar. 23	Samuel A. Goldblith, '40	Frederic Hammesfahr, '40
Rochester	Mar. 24	George R. Harrison, William T. Martin, Philip Morrison, and Elting Morison	W. Blake Foster, '60
Worcester	Mar. 24	David H. Frisch	Arnold A. Kramer, '52
New York	Mar. 30	Hans-Lukas Teuber	James N. Phinney
Worcester	Apr. 14	William H. Dennen	Arnold A. Kramer, '52
Toronto	Apr. 15	Walter A. Rosenblith	Michael M. Koerner, '49



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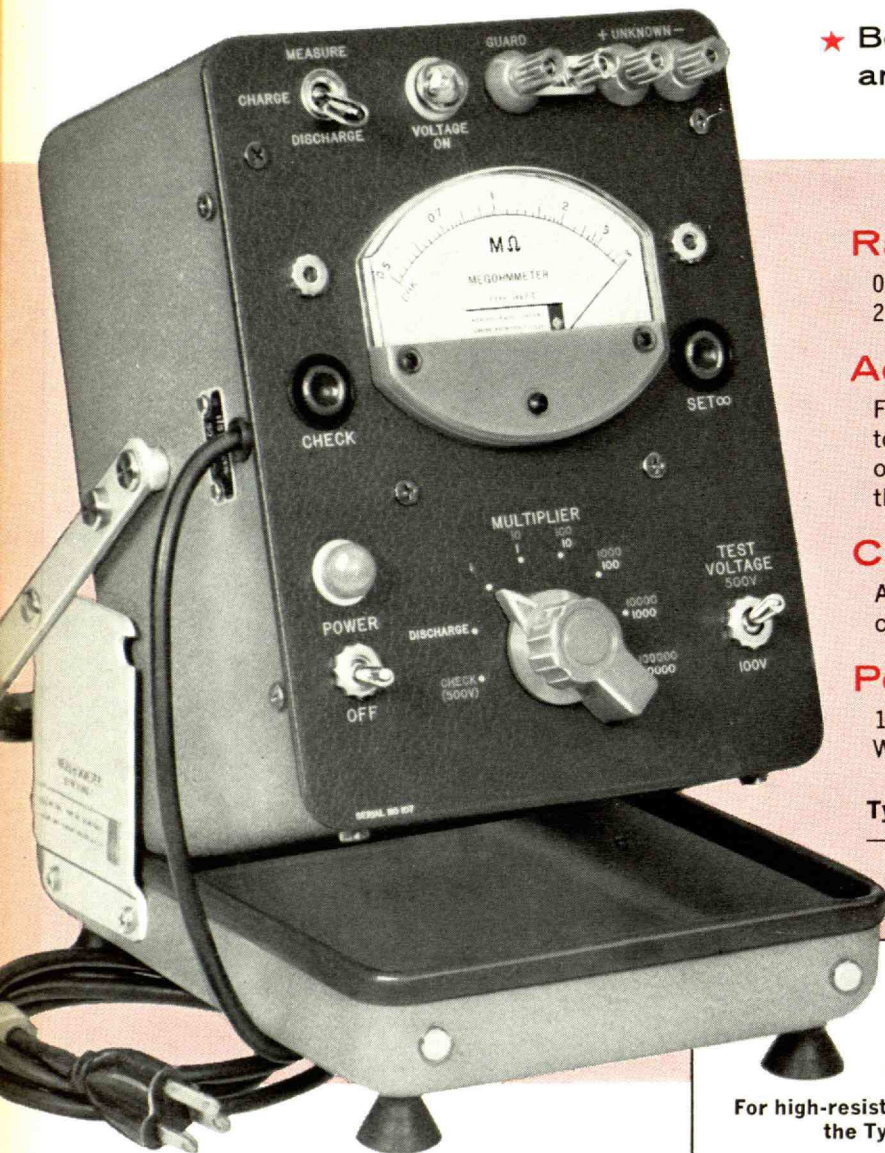
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